REPORT

# of the

SAN FRANCISCO WATER DEPARTMENT

FISCAL YEAR

1971-72

ARTHUR H. FRYE, JR.
General Manager and Chief Engineer

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REPORT FOR FISCAL YEAR
JULY 1, 1971 TO JUNE 30, 1972

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SAN FRANCISCO WATER DEPARTMENT

ARTHUR H. FRYE, JR.
General Manager and Chief Engineer

The Water Department is entirely self-supporting, paying from revenues the cost of all operations, maintenance, improvements, taxes, bond interest and redemption. In addition, the Department does not receive payment (approximately one and one-half million dollars per year) for water furnished to tax supported San Francisco City departments, and for fire protection service to the entire city. Even with the 15% increase in rates effective with meter readings after June 1, 1970, water is now being sold below the rates that existed in 1930 when the Spring Valley Water Company was purchased.

The obligations of the Department are to deliver to all consumers a safe potable water in adequate quantity and at adequate pressure; to comply with all standards set by appropriate state and federal agencies; to accurately measure, bill and collect for services, to equitably distribute the cost of water service; and through continued planning and construction provide for the needs of present and future customers in our service area.

In 1962, the U. S. Department of Public Health reduced the recommended turbidity for public drinking water from 10 units to 5 units. In 1963, San Francisco's water supply was given only a provisional certification for use by interstate carriers (ships, trains, planes) contingent upon the active planning and construction of specific filtration facilities. Subsequent certifications were "Approved" upon satisfactory evidence we were carrying out the required construction. Therefore, water quality and water quantity are major obligations of this Department.

Early in 1970-71, Crystal Springs Bypass ($8.6 million tunnel and $1.0 million pipeline - both 1961 Bond Fund projects) were put into service, delivering Hetch Hetchy water and filtered water from Alameda County sources directly to northern San Mateo County and San Francisco, thus completing another planned project to improve water quality.

San Andreas Water Filtration, a project essential to maintaining "approved" water quality, had been scheduled for completion by the end of 1971; however, separate strikes affected delivery of equipment, and actual construction, so that test operation was delayed until the end of fiscal year 1971-72.

With San Andreas Filtration Plant in operation, the system can supply mountain water from Hetch Hetchy, water from Alameda sources through Sunol Filtration Plant, and from Peninsula sources through San Andreas Filtration Plant.

Under normal conditions all water quality requirements have now been met; however, at times of peak demand, it is still necessary to add unfiltered water from Crystal Springs Reservoir to maintain adequate supply and pressure. Final Plans and Specifications for the Construction of Crystal Springs Balancing Reservoir and Pumping Station were received at the end of 1971-72 fiscal year. This balancing reservoir will store filtered water and mountain water during periods of low demand to supplement the aqueduct delivery during peak demand periods. Upon completion of this construction, peak demands can be met without drawing upon unfiltered water supplies.

Enlargement of Sunol Valley Filtration Plant is essential to meeting delivery demand during summer months. Plans and Specifications prepared by consultants under a Professional Services Agreement will be completed prior to available financing from the proposed bond fund that is on the November 1972 ballot.

The completion of Bay Division Pipeline No. 4 is essential to meeting water delivery needs during summer months or dry years. Construction of the remaining portion, Section "C" from Stanford Tunnel to Pulgas Tunnel started on August 2, 1971 and was 53% completed by June 30, 1972. Upon completion of this section, transmission capacity to the west side of the Bay will be increased from 235 to 307 million gallons per day.

Construction of 60-inch Crystal Springs Pipeline No. 3 from Hillsborough to Millbrae was completed September 15, 1971.

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CAPITAL PROGRAM

San Francisco was the first importer of water into the Bay Area. Even today San Francisco is the only importer of water within most of the 500 square mile area presently served by the Water Department. The quantity and quality of water available from this system has attracted industries to the Bay Area resulting in jobs that in turn contributed to the growth of former suburban areas into cities. The systemwide consumption of water has increased at an average annual rate of 3.5% over the last five years. Consumption increased at an average annual rate of 4.4% over the last twenty years.

The Water Department, as an operating utility, must comply with the applicable federal and state regulations pertaining to water supply, water quality, public safety, and security in the event of natural or man-made disaster.

The Department had a study made by consultants of Water Demand, Water Supply and System Improvements needed to meet present and projected future water needs. During the decade through 1980, capital improvements needed were estimated to cost 126 million dollars. Of this sum, approximately 60 million dollars is for projects appropriate to fund by new bond issues, distributing their cost over a period of years. A review of this program with consideration to the slow up in population growth has warranted some change, and an updated program was submitted to our rate consultants in order to establish the requirements of a bond issue to be submitted to the electorate in November 1972.

An interim rate study resulted in a 15% increase in water rates effective June 1, 1970. A more detailed rate study was funded in the 1970-71 budget, resulting in a Professional Services Agreement being certified in April 1971. The consulting firm is mutually acceptable to this Department and to major resale consumers. Preliminary reports, An Evaluation of the Annual Hetch Hetchy Assessment to the Water Department and Revenue Requirement Study, have been completed with a third study of schedules of rates for all classes of customers still under preparation.

The final determination on the proposed bond

issue was $39,000,000 to cover the necessary improvements that must be constructed or at least under construction in the next 5 year period to take care of water consumption and water quality requirements.

UTILITY TAX

Within the past two years the Water Department through three separate ordinances has been charged with the responsibility of collecting a Utility Tax, Industrial Waste Surcharges, and a Sewer Service Charge.

The Utility Tax of 5% has been collected since October 1970 and is averaging approximately $50,000 per month. The Industrial Waste Surcharge became effective July 1, 1971. The funds have not been collected under this ordinance since the Department of Public Works has not yet established the formulas for the various industries. The Sewer Service Charge collections were scheduled to commence on October 1, 1971, but due to the President's ninety-day freeze and other delays, did not start until April 1972. Revenue from the Sewer Service has been estimated to be about $1,000,000 per month.

The monies collected under the Utility Tax are placed in the General Fund whereas the charges collected under the other two ordinances will be deposited in special funds under the jurisdiction of the Department of Public Works.

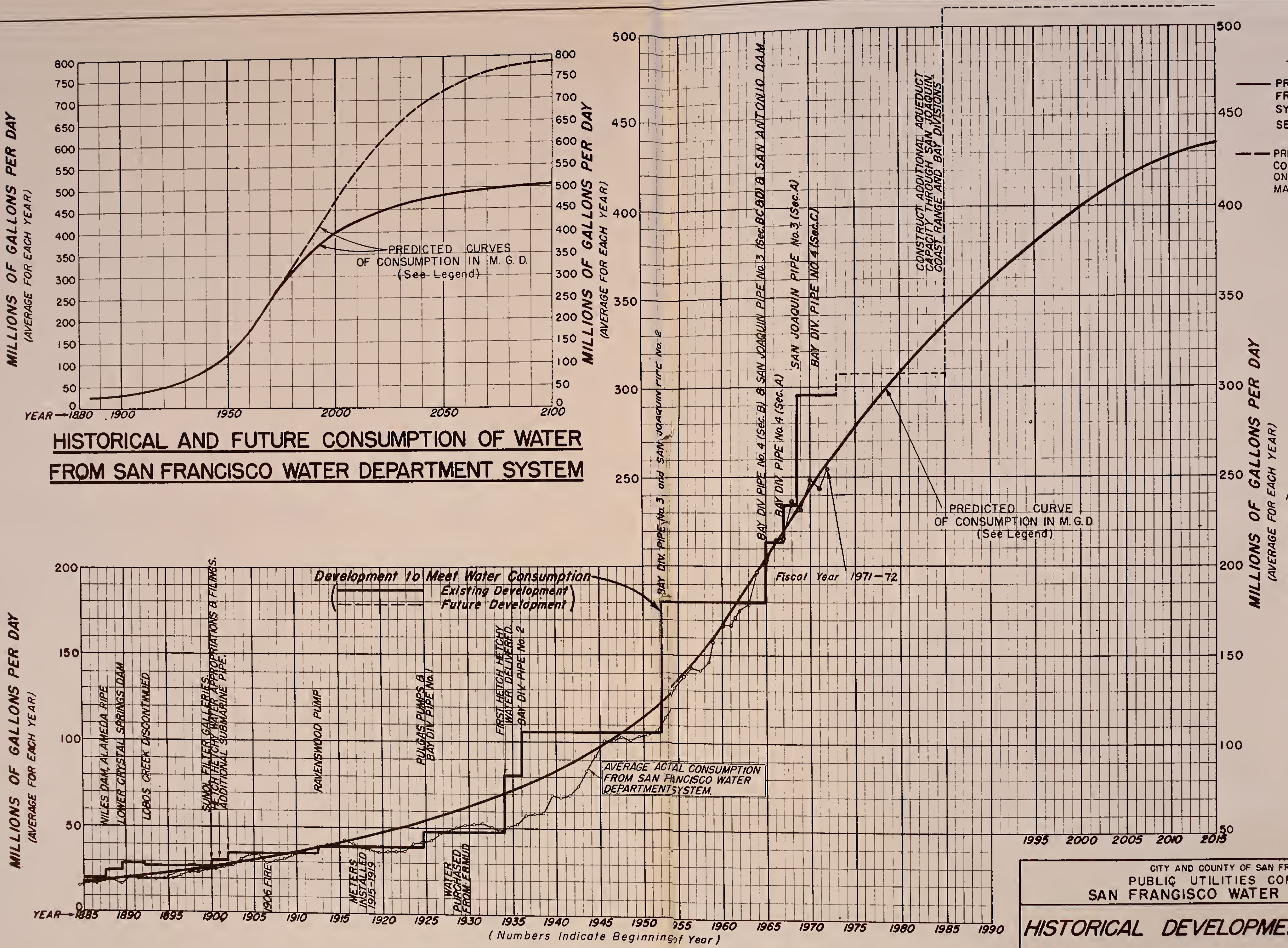
DEPARTMENT PROGRAMS

The Water Department serves water to an estimated 1,750,000 people of all ages, races, and all walks of life within the City and County of San Francisco, most of the urban area of San Mateo County, the cities of Palo Alto, Mountain View, Sunnyvale and Milpitas in northern Santa Clara County, and Hayward, Sunol and Fremont areas in southern Alameda County.

There are no other city, county, state or federal agencies with parallel or related functions within the area served.

No state or federal agency aid was available during 1971-72 nor is any anticipated for 1972-73.

Following are additional details of the Water Department's operations.



HISTORICAL AND FUTURE CONSUMPTION OF WATER FROM SAN FRANCISCO WATER DEPARTMENT SYSTEM

LEGEND

- ——— PREDICTED CONSUMPTION FROM SAN FRANCISCO'S SYSTEM WITHIN S.F.W.D. SERVICE AREA.
- — — PREDICTED SUPPLEMENTAL CONSUMPTION IN AREA SHOWN ON EXHIBITS PRESENTED IN MARCH 1955 & APRIL 1936.

NOTE:–

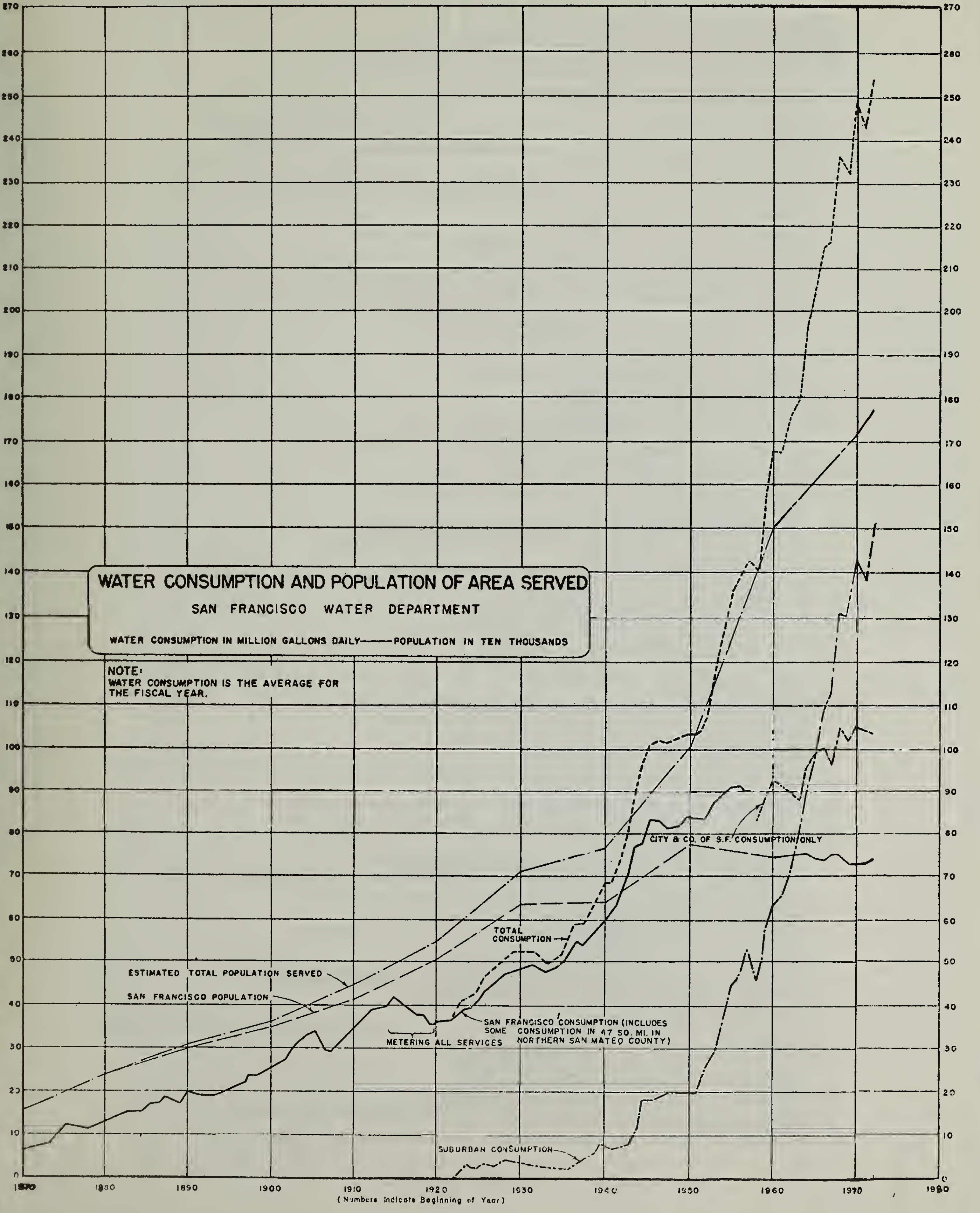
Aqueduct development to meet water consumption includes only work for delivery to the peninsula reservoirs and consumers from main aqueduct, and does not include facilities for distribution therefrom.

Local production of record has varied from none to 102 M.G.D. (Average for one Year.) The average long range yield is about 55 M. G. D., and the safe yield, through historical 5-year critical periods, is about 40 M.G.D., including draft from carryover storage, and San Antonio Reservoir added to system in 1965

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

HISTORICAL DEVELOPMENT & PROGRAM FOR FUTURE AQUEDUCT CONSTRUCTION

APPROVED
SCALE AS SHOWN
BY J. S. C.
DR. D. J. S.
APPROVED
GENERAL MANAGER AND CHIEF ENGINEER
TR. D. J. S.
CH.
DATE NOV. 8, 1955
REVISED 11-27-72
X-1682 D

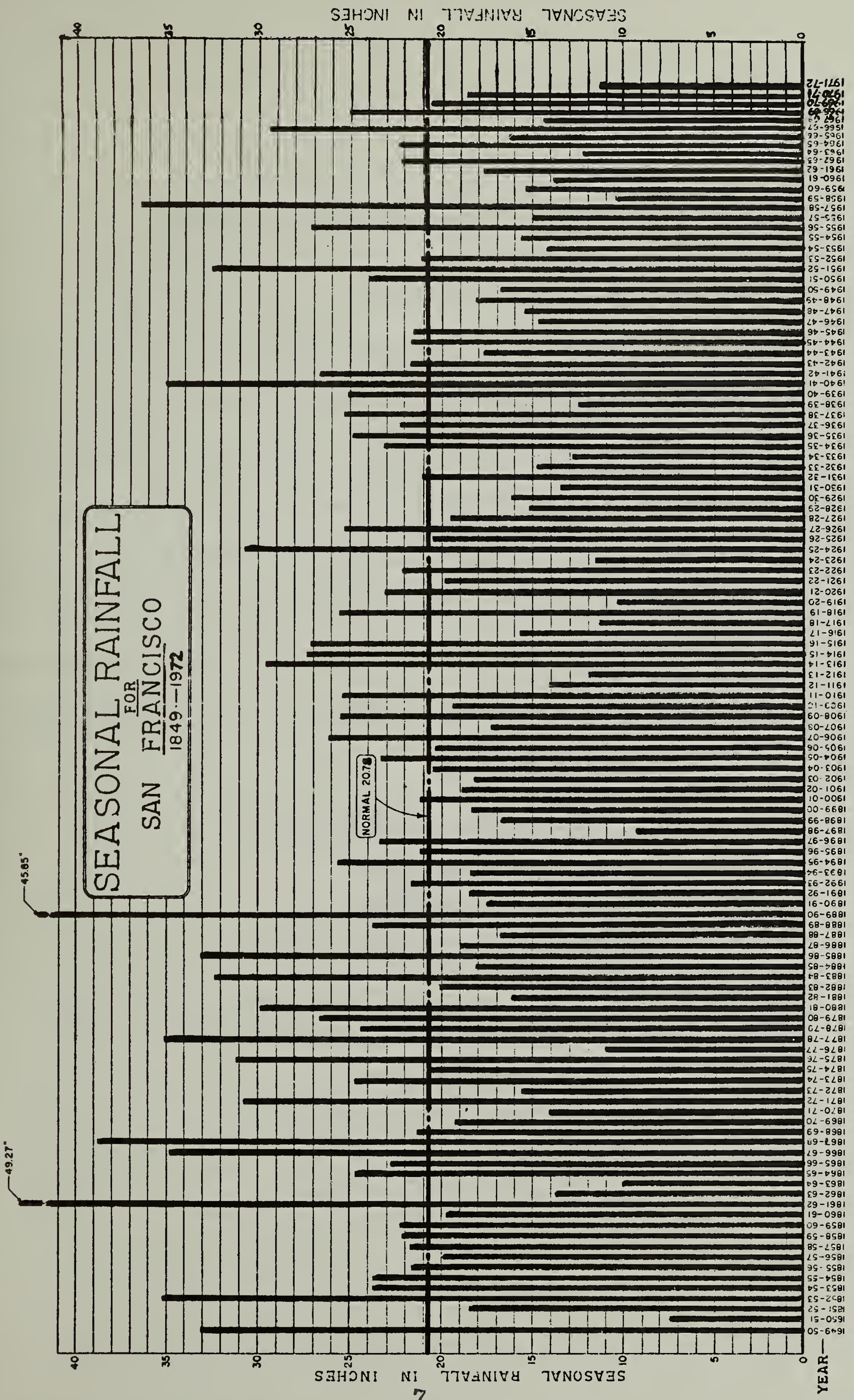


WATER CONSUMPTION AND POPULATION OF AREA SERVED

SAN FRANCISCO WATER DEPARTMENT

WATER CONSUMPTION IN MILLION GALLONS DAILY——POPULATION IN TEN THOUSANDS

NOTE:
WATER CONSUMPTION IS THE AVERAGE FOR THE FISCAL YEAR.


SEASONAL RAINFALL
FOR
SAN FRANCISCO
1849.—1972
SEASONAL RAINFALL IN INCHES
YEAR—
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35
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1970-71
1971-72

DELIVERY, PRODUCTION AND TRANSMISSION

San Francisco's diversion of water from mountain sources is limited by the Raker Act to an amount that, "together with the waters which it now has or may hereafter acquire, shall be necessary for the beneficial use for domestic or other municipal purposes". "The water which it (San Francisco) has acquired" varies with climatic conditions from year to year. The 1971-72 production from local sources was approximately 3% of the long term average. The following tables provide statistical information for fiscal year 1971-72.

DELIVERIES FOR CONSUMPTION

	Million Gallons	MGD Average	%
From Hetch Hetchy	83,862.9	299.13	89.9
From Alameda and Peninsula Sources	9,456.5	25.84	10.1
	93,319.4	254.97	100.0

RAINFALL

Gaging Stations	1971-72	Comparison to Normal
Calaveras (Alameda County)	11.29 inches	52%
Crystal Springs Cottage (San Mateo County)	11.73 "	45%
Pilarcitos (San Mateo Co.)	23.55 "	53%
San Andreas " " "	17.29 "	48%

WATER PRODUCTION

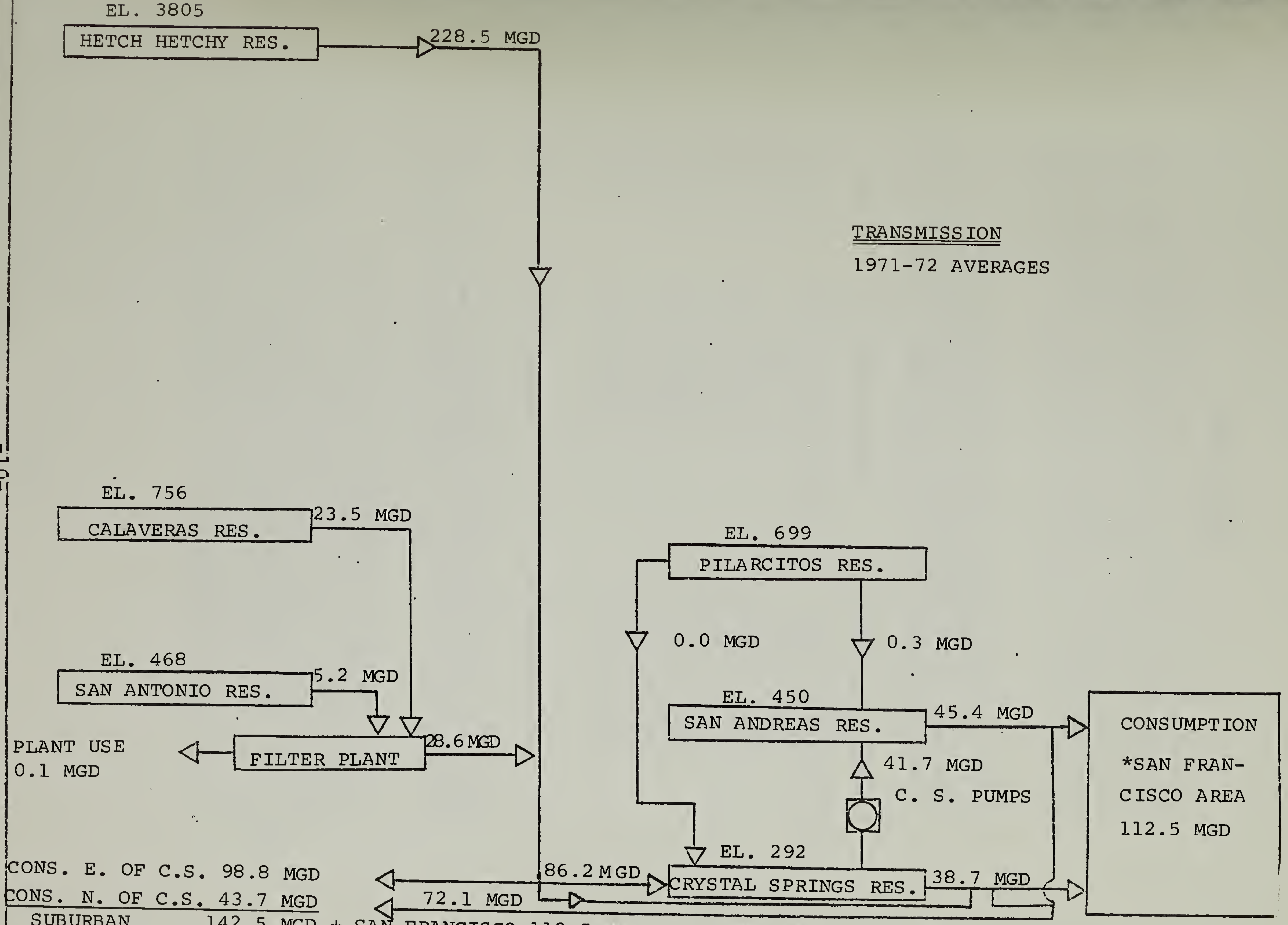
		1970-71		1971-72	
		MG	MGD Average	MG	MGD Average
Calaveras	(Alameda Co.)	11,968.9	32.8	1,973.4	5.4
San Antonio	" "	1,375.3	3.8	- 579.7	-1.6
Other Sources	" "	2,094.4	5.7	1,631.3	4.4
Crystal Springs	(San Mateo Co.)	1,193.6	3.3	-2,397.6	-6.6
Pilarcitos	" " "	952.9	2.6	- 350.2	-0.9
San Andreas	" " "	408.7	1.1	276.4	0.8
TOTAL		17,993.8	49.3	553.6	1.5

WATER STORAGE

	7-01-71	6-30-72	Minimum		Maximum	
	MG	MG	Date	MG	Date	MG
Calaveras	25,475	17,733	6-30-72	17,733	7-01-71	25,475
San Antonio	9,557	7,917	6-30-72	7,917	7-01-71	9,557
Crystal Springs	14,564	15,913	12-02-71	9,977	4-25-72	16,743
Pilarcitos	215	373	10-18-71	89	4-24-72	414
San Andreas	5,364	3,823	6-30-72	3,823	8-29-71	5,538
TOTAL	55,175	45,759				

TRANSMISSION

1971-72 AVERAGES



SUBURBAN 142.5 MGD + SAN FRANCISCO 112.5 MGD = SYSTEM TOTAL 255.0 MGD

* INCLUDES 47 SQUARE MILES OF SAN MATEO COUNTY

WATER RIGHTS

In accordance with the 1916 and subsequent 1936 and other Alameda County Water District Agreements, the Department released water for replenishment of the underground supply of the Niles Cone. The total release entering Niles Cone during 1971-72 is tentatively estimated by this Department to have been 1,264 million gallons.

The quantities of water due the District and the quantities released by the Water Department to the District for replenishing the underground waters for each of the past ten years prior to 1971-72 are as follows:

Year	Due the District		Released to District	
1961-62	160,873,000	Gallons	692,974,000	Gallons
1962-63	211,547,000	"	486,109,000	"
1963-64	None		672,531,000	"
1964-65	201,185,000	"	1,696,091,000	"
1965-66	196,544,000	"	1,122,762,000	"
1966-67	42,363,000	"	1,885,672,000	"
1967-68	265,512,000	"	1,541,678,000	"
1968-69	120,938,000	"	1,762,598,000	"
1969-70	78,683,000	"	1,529,317,000	"
1970-71	468,548,000	"	1,674,187,000	"
10 Yr. Total	1,746,193,000	"	13,064,919,000	"

The net accumulated advance release to the Alameda County Water District in accordance with the terms of the 1936 Agreement amount to the 44,415 million gallons reported as of June 30, 1972.

The Sheriff of Alameda County continued to use the U. S. Navy's "Camp Shoemaker" as "Santa Rita Rehabilitation Center" during the fiscal year. Water supplied to this institution, as well as to the former Naval Housing Project, Komandorski Village and Camp Parks, was taken by the U. S. Government from the 4.105 acre tract within the Pleasanton Township County Water District. The withdrawal of ground waters for such purposes varied from a

high of 2.18 million gallons to a low of 0.09 million gallons per day on days when they pumped. The pumps operated throughout the year three to seven days per week, averaging 718,768 gallons per day for the year.

During the fiscal year, the tenants on the City's Well Field property near Pleasanton pumped about 378 million gallons of water from City owned wells for irrigation of this leased property.

During this fiscal year, the lessees on Department lands bordering Laguna and Alameda Creeks at Sunol used for irrigation about 64 million gallons of water pumped directly from these creeks.

WATER QUALITY AND TREATMENT

All water drawn from Alameda County sources (Calaveras and San Antonio reservoirs and Sunol Filter Galleries) enters the system through Sunol Valley Water Treatment Plant. Chemicals used at this plant include 2,453 pounds of polyelectrolite, 137,189 pounds of alum, 185,443 pounds of lime and 175,432 pounds of chlorine. The other chemicals used at this plant are included in the totals used throughout the system.

Customary procedures for the treatment of the San Francisco water supply were employed during the year and proper precautions were taken to insure its safety and purity. Disinfection of all supplies was continuous and water served to consumers complied with the bacteriological standards for drinking water established by the United States Public Health Service.

Dissolved chemical content of the supply sources varies from a soft mountain to that of a moderately soft local water. The mountain water constitutes the principal source of supply and requires treatment for the control of its corrosive properties. It is combined in varying proportions with the water from local sources, is soft to moderately soft when served to customers, and its low mineral content makes it an excellent water for all uses.

LABORATORY:

All analytical work in the fields of biology, microbiology and chemistry, except the necessary field tests, was performed in our laboratory located at Millbrae, which has been certified by the State Department of Public Health as an "Approved Water Laboratory for Complete Chemical and Complete Bacteriological Analyses".

INSPECTIONS:

Periodic sanitary inspections of the watershed areas were conducted to insure the protection of the water supply. Particular attention was given to the areas of new and recent construction of the Junipero Serra

Freeway in the watersheds of Upper and Lower Crystal Springs reservoirs.

During the year a number of pipeline and tunnel inspections were conducted at various points in the water transmission system. Their purpose was the determination of the structural condition and degree of corrosive deterioration, if any, of the sections involved as well as the nature and extent of any organic growth and organic or inorganic sediment.

CHLORINATION:

Normal water treatment practices for safeguarding the San Francisco water supply were in force throughout the year. Disinfection of all supplies was continuous. A total of 1,912,242 pounds of chlorine was used during the year at the various chlorination stations.

DECHLORINATION:

The automatic sulfur dioxide treatment facilities for the partial dechlorination of the water in the Crystal Springs and San Andreas pipelines were not required and consequently not operated for that purpose during the year.

FLUORIDATION:

Facilities for the fluoridation of the water supplied from the Peninsula Division reservoirs have been in service for several years. A new facility, the Bypass Fluoride Station located near Polhemus Road in San Mateo and designed for the automatic fluoridation of water supplied from the Crystal Springs Bypass Tunnel was constructed during the year and placed into service on February 4, 1972. A total of 272,689 pounds of sodium silicofluoride and 285,046 pounds of liquid hydrofluosilicic acid was used during the year, with dosages at the operating stations averaging 0.80 milligrams per liter. This amount, added to the natural fluoride content of the water, resulted in an average total fluoride content in the water served to consumers of 0.83 milligrams per liter.

CORROSION CONTROL:

A total of 3,401,406 pounds of lime was added to the water coming from mountain sources to reduce the corrosive tendencies of this soft water.

ALGAE CONTROL:

Each of the storage reservoirs on the Peninsula and Calaveras reservoir received at least one copper sulfate treatment during the year for the control of algae growth. A total of 116,270 pounds of copper sulfate was used for algae control.

COAGULATION:

A total of 40,600 pounds of dry alum was used at the new Stone Circle Alum Plant located at Edgewood and Canada roads as a key facility in the drainage system of the Junipero Serra Freeway, Highway 280, in the Upper Crystal Springs watershed.

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

RAW WATERS AND OTHER SOURCES

1971 - 1972

Origin of Sample	Agar Count No. Per Ml.			Coliform Group 10 ml. portions			Samples		
	Min.	Max.	Median	No. Exam.	No. Pos.	% Pos.	No. Exam.	No. Pos.	% Pos.
Moccasin Reservoir	250	>300	>300	220	172	78.2	44	31	70.4
Tesla Portal	1	>300	1	250	119	47.6	50	24	48.0
Calaveras Reservoir	1	>300	13	250	108	43.1	50	19	38.0
Calaveras Outlet	1	>300	17	185	91	49.1	37	16	43.2
Sunol Filters	1	>300	32	845	169	20.0	49	34	69.5
San Antonio Surf.	1	>300	41	250	63	25.2	50	10	20.0
San Antonio Outlet	1	>300	98	240	55	22.9	48	9	18.7
Upper C.S. Surf	1	>300	19	255	82	32.2	51	15	29.4
Lower C.S. Surf	1	>300	9	250	82	32.8	50	11	22.0
Lower C.S. Outlet	1	>300	5	1540	402	26.1	308	59	19.2
San Andreas Surf.	1	>300	6	260	62	23.8	52	8	15.4
San Andreas Outlet	1	>300	8	1495	529	35.3	295	5	28.8
Pilarcitos Surf.	1	>300	42	260	217	83.4	52	46	88.4
Stone Dam Reservoir	1	>300	86	260	257	98.8	52	52	100
				MPN					
				Min.	Max.	Median			
Lake Merced North *	10	>300	70	2	240	38	42	39	92.9
Lake Merced South *	10	>300	86	1.8	920	70	42	38	90.5
Laguna Creek	>300	>300	>300	2	>24000	920	46	41	89.1
Alameda Creek	50	>300	>300	68	9200	640	43	43	100

*	Emergency Standby Source
MPN:	Most Probable Number per 100 Milliliters

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

1971 - 1972

Origin of Sample	Agar Count No. Per Ml.			Coliform Group 10 ml. portions			Samples		
	Min.	Max.	Median	No. Exam.	No. Pos.	% Pos.	No. Exam.	No. Pos.	% Pos.
DISTRIBUTION RESERVOIR WITH CHLORINATION FACILITIES									
Lombard Reservoir	1	1	1	525	1	0.2	105	0	0
University Md. Res #1 N.	1	3	1	520	13	25.0	104	0	0
University Md. Res #1 S.	1	>300	1	525	5	0.9	105	0	0
College Hill Reservoir	1	1	1	525	0	0	105	0	0
Sunset #1 North	1	1	1	520	0	0	104	0	0
Sunset #2 South	1	100	1	325	1	0.3	65	0	0
Merced Manor Reservoir	1	4	1	490	37	7.5	98	7	7.1
Stanford Heights Reservoir	1	1	1	525	7	1.3	105	1	0.9
Sutro Reservoir	1	40	1	525	0	0	105	0	0
Summit Reservoir	1	2	1	525	40	7.6	105	6	5.7
Francisco Reservoir	1	3	1	515	2	0.4	103	0	0
McLaren Tank	1	1	1	525	2	0.4	105	0	0
Niles Reservoir	1	1	1	235	0	0	47	0	0
TREATED WATER									
Alameda East	1	1	1	270	0	0	54	0	0
Calaveras P.L.	1	100	1	240	1	0.4	48	0	0
San Antonio P.L.	1	>300	158	250	48	19.2	50	7	14
Sunol Filter Plant Outlet	1	>300	1	40	0	0	8	0	0
Sunol Town Supply	1	10	1	520	0	0	104	0	0
Sunol Aqueduct	1	>300	1	260	1	0.4	52	0	0
Pleasanton Well Field	1	>300	1	230	10	4.3	46	1	2.2
Pleasanton Town Well	1	>300	1	235	0	0	47	0	0
Irvington Meter	1	2	1	265	5	18.8	53	1	1.9
Bay Cross. P.L. #1	1	25	1	1345	8	0.6	269	0	0
Bay Cross. P. L. #2	1	1	1	1350	8	0.6	270	1	0.4
Bay Cross. P.L. #3	1	2	1	1320	9	0.7	264	0	0
Bay Cross. P.L. #4	1	1	1	510	2	0.4	102	0	0
Palo Alto Pipeline	1	>300	1	770	0	0	154	0	0
SSL Casey Quarry	1	6	1	1260	16	12.7	252	1	0.4
C.S. #2 Casey Quarry	1	8	1	1260	14	11.1	252	0	0
S.F. Airport North	1	1	1	775	4	0.5	155	1	0.6
S.F. Airport South	1	1	1	765	1	0.1	153	0	0
C.S.P.L. #1 Millbrae	1	>300	1	780	6	0.8	156	1	0.6
C.S.P.L. #2 Millbrae	1	1	1	1555	0	0	311	0	0
San Andreas #3 Inlet	1	1	1	1320	10	7.6	264	1	0.4
San Andreas F.P. #2 Outlet	1	3	1	1535	56	3.6	307	10	3.3
SSL at Millbrae	1	43	1	1550	7	0.5	310	2	0.6
San Andreas at Baden	1	16	1	1325	31	2.3	265	6	2.3
Univ. Md . Inlet #1	1	>300	1	500	5	1.0	100	1	1.0
Univ. Md. Inlet #2	1	>300	1	525	5	0.9	105	1	0.9
Univ. Md. Outlet #1	1	2	1	525	0	0	105	0	0
Univ. Md. Outlet #2	1	15	1	525	0	0	105	0	0

BACTERIOLOGICAL ANALYSES

ANNUAL SUMMARY OF RESULTS

1971 - 1972

Origin of Sample	Agar Count No. Per Ml.			Coliform Group 10 ml. portions			Samples°		
	Min.	Max.	Median	No. Exam.	No. Pos.	% Pos.	No. Exam.	No. Pos.	% Pos.
Univ. Md. System #1	1	1	1	525	0	0	105	0	0
Univ. Md. System #2	1	1	1	520	0	0	104	0	0
Univ. Md. System #3	1	1	1	520	2	0.4	104	0	0
Univ. Md. System #4	1	1	1	525	2	0.4	105	0	0
Univ. Md. System #5	1	1	1	525	1	0.2	105	0	0
Univ. Md. System #6	1	>300	1	525	0	0	105	0	0
Univ. Md. System #7	1	1	1	525	5	0.9	105	1	0.9
Univ. Md. System #8	1	2	1	525	6	1.1	105	2	1.9
College Hill Inlet	1	1	1	220	0	0	44	0	0
College Hill Outlet	1	1	1	525	5	0.9	105	1	0.9
College Hill System. #1	1	43	1	520	24	4.6	104	5	4.8
College Hill System #2	1	1	1	525	3	0.6	105	1	0.9
Sunset Inlet	1	2	1	525	5	0.9	105	1	0.9
Sunset Outlet #1	1	1	1	515	0	0	103	0	0
Sunset Outlet #2	1	1	1	320	0	0	64	0	0
Sunset System #1	1	1	1	520	0	0	104	0	0
Sunset System #2	1	60	1	525	5	0.9	105	1	0.9
Sunset System #3	1	100	1	525	0	0	105	0	0
Sunset System #4	1	1	1	520	0	0	104	0	0
Sunset System #5	1	1	1	525	0	0	105	0	0
Sunset System #6	1	>300	1	525	14	2.7	105	3	2.9
Sunset System #7	1	>300	1	515	10	1.9	103	1	0.9
Sunset System #8	1	31	1	525	12	22.8	105	2	1.9
Sunset System #9	1	1	1	525	4	0.8	105	1	0.9
Potrero Hts. Tank	1	>300	1	525	8	1.5	105	1	0.9
Pt. Hts. Res. Out.	1	1	1	525	6	1.1	105	1	0.9
Potrero Hts. System	1	>300	1	520	14	2.7	104	3	2.9
Lombard System	1	1	1	520	0	0	104	0	0
Merced Manor System #1	1	15	1	525	3	0.6	105	0	0
Merced Manor System #2	1	1	1	345	4	1.2	69	1	1.4
Stanford Hts. Inlet	1	1	1	525	13	2.5	105	3	2.9
Stanford Hts. Outlet	1	1	1	525	10	1.9	105	2	1.9
Stanford Hts. System #1	1	1	1	525	10	1.9	105	2	1.9
Stanford Hts. System #2	1	1	1	525	3	0.6	105	0	0
Stanford Hts. System #3	1	1	1	525	3	0.6	105	1	0.9
Sutro Outlet	1	75	1	525	4	0.8	105	1	0.9
Sutro System #1	1	1	1	525	0	0	105	0	0
Sutro System #2	1	1	1	520	0	0	104	0	0
Sutro System #3	1	1	1	520	0	0	104	0	0
Sutro System #4	1	1	1	525	0	0	105	0	0
McLaren System #1	1	68	1	510	6	1.2	102	1	0.9
Summit Outlet	1	1	1	525	1	0.2	105	0	0
Summit System	1	1	1	525	0	0	105	0	0

° Three or more tubes positive

DISTRIBUTION AND CONSUMPTION

Within the City of San Francisco the Department distributes, delivers and meters water directly to consumers. Outside of San Francisco water is delivered and metered from transmission mains to water purveyors who distribute to customers in their service areas.

METERED DELIVERIES

1971-1972

	Million Cubic Feet Year	M.G.D.	%	% Increase Over Prior Year
City*	4,897.6	100.1	40.2	1.6
Suburban**	7,278.1	148.7	59.8	9.4
Systemwide	12,175.7	248.8	100.0	6.1

* Includes 424.1 million cubic feet (3,172.3 million gallons) used by municipal non-pay accounts.

** Includes 96.5 million cubic feet (721.8 million gallons) used by suburban non-pay accounts.

MAINTENANCE AND OPERATION

The Department has a total of 159,516 service pipes (from street main to the meter) in active use. The pipes are smaller and more subject to damage than mains. During and following World War II available material proved to have a shorter useful life than previous material. During 1971-72 the following was accomplished:

New Services Installed	710
Old Services Replaced	6,064
Services Repaired	3,840
Meters Installed	8,079
Meters Repaired	11,840

A total of 8.2 miles of new distribution mains were laid and 4.4 miles of old mains were removed or abandoned. There was a total of 1,169 miles of water mains in the City Distribution System on June 30, 1972.

The following tables give detailed information on sales, delivery and consumption for fiscal 1971-72:

WATER SOLD IN SUBURBAN AREA

FOR FISCAL YEARS
1971 - 1972

SAN MATEO COUNTY MUNICIPAL UTILITIES	CUBIC FEET TOTAL FOR YEAR*	MGD	CHARGE TOTAL FOR YEAR
City of Redwood City	446,783,300	9.13	$ 787,803.98
City of Burlingame	242,113,200	4.95	441,798.99
Belmont County Water District	191,843,000	3.92	344,775.61
City of Menlo Park	188,622,700	3.85	346,321.96
North Coast County Water District	158,349,800	3.24	280,248.76
Town of Hillsborough	149,533,700	3.06	282,914.55
City of Millbrae	149,491,400	3.06	275,563.56
City of Daly City	130,416,500	2.67	247,515.97
City of San Bruno	128,055,600	2.62	243,956.00
East Palo Alto Water District	108,889,300	2.22	195,695.58
Estero Municipal Improvement District	91,714,300	1.87	166,499.16
Coastside County Water District	41,347,000	0.85	78,299.48
Westborough County Water District	25,270,400	0.52	47,854.04
Dimond Public Utility District	17,617,000	0.36	36,040.28
City of Brisbane	14,286,300	0.29	31,386.22
Guadalupe Valley Muni. Impr. Distr.	10,669,600	0.22	25,614.57
Skyline County Water District	3,580,100	0.07	9,236.59
Los Trancos County Water District	2,314,600	0.05	5,983.08
Palomar Park Co. Water District	2,025,100	0.04	5,334.46
Cordilleras Mutual Water Association	326,300	0.01	1,124.20
Airport	66,292,400	1.34	143,410.30
TOTAL MUNICIPAL UTILITIES	2,169,541,600	44.34	3,997,377.34
Other Water Sold	1,768,413,200	36.14	3,229,299.60
TOTAL SAN MATEO COUNTY	3,937,954,800	80.48	$7,226,676.94

WATER SOLD IN SUBURBAN AREA

FOR FISCAL YEARS
1971 - 1972

SANTA CLARA COUNTY MUNICIPAL UTILITIES	CUBIC FEET TOTAL FOR YEAR*	MGD	CHARGE TOTAL FOR YEAR
City of Palo Alto	856,845,800	17.51	$1,490,460.43
City of Sunnyvale	456,054,600	9.32	800,427.72
City of Mountain View	377,077,000	7.71	656,600.26
City of Milpitas	260,498,200	5.32	464,591.63
Purissima Hills County Water District	56,185,000	1.15	104,597.86
City of San Jose	7,718,200	0.16	18,254.26
TOTAL MUNICIPAL UTILITIES	2,014,378,800	41.17	3,534,932.16
Moffett Field	91,582,800	1.87	160,108.58
Other Water Sold	60,892,500	1.25	115,959.81
TOTAL SANTA CLARA COUNTY	2,166,854,100	44.29	$3,811,000.55
ALAMEDA COUNTY			
MUNICIPAL UTILITIES			
Hayward Municipal Water System	741,617,000	15.16	$1,291,346.15
Alameda County Water District	268,077,200	5.48	521,499.75
TOTAL MUNICIPAL UTILITIES	1,009,694,200	20.64	1,812,845.90
Other Water Sold	67,087,600	1.36	144,171.70
TOTAL ALAMEDA COUNTY	1,076,781,800	22.00	$1,957,017.60
TOTAL WATER SOLD SUBURBAN AREA	7,181,590,700	146.77	$12,994,695.09

*These quantities are measured by the consumers' meters and for this fiscal year an average of about 1.6% must be added in order to determine the quantities of water required to be produced and released for consumption in each case. This is true for all quantities of water shown in this "Distribution and Consumption" section of the Annual Report.

DELIVERIES AND CONSUMPTION
FROM
SAN FRANCISCO WATER DEPARTMENT SOURCES
FISCAL YEAR - 1971-72

Area, Utility or District	Metered 100 Cu.Ft. Year	Delivery MGD	Consumption (1) MGD	Consumption (1) Ac.Ft. Year
San Mateo County				
Bayshore City (Dimond Public Utility District)	176,170	0.36	0.36	405
Brisbane, City of	142,863	0.29	0.29	329
Guadalupe Valley Municipal Improvement District	106,696	0.22	0.22	245
Daly City, City of	1,304,165	2.67	2.68	3,002
Colma (Broadmoor, Calif. Water Service Company)	303,240	0.62	0.62	698
South San Francisco (Calif.Water Serv.Co.)	3,223,360	6.58	6.60	7,419
North Coast Co.Water Dist.	1,583,498	3.24	3.25	3,645
Coastside Co. Water Dist.	413,470	0.85	0.85	952
San Bruno, City of	1,280,556	2.62	2.63	2,948
S.F.International Airport Sold 66,292,400 Cu.Ft. S.F.Use 12,090,400 Cu.Ft.(2)	783,828	1.35 1.60	1.35 1.61	1,804
Millbrae, City of	1,494,914	3.06	3.07	3,441
Burlingame, City of	2,421,132	4.95	4.96	5,573
Hillsborough, Town of	1,495,337	3.06	3.07	3,442
Crystal Springs Golf Club (2)	128,118	0.26	0.26	295

DELIVERIES AND CONSUMPTION FROM SAN FRANCISCO WATER DEPARTMENT SOURCES (continued)

FISCAL YEAR - 1971-72

Area, Utility or District	Metered 100 Cu.Ft. Year	Delivery MGD	Consumption (1) MGD	Consumption (1) Ac. Ft. Year
San Mateo County (continued)				
San Mateo (Calif. Water Service Company)	6,129,689	12.53	12.56	14,109
Belmont County Water Dist.	1,918,430	3.92	3.93	4,416
San Carlos (Calif. Water Service Company)	2,119,602	4.33	4.34	4,879
Westborough County Water District	252,704	0.52	0.52	582
Redwood City, City of	4,467,833	9.13	9.16	10,284
Redwood City (Calif.Water Serv.Co.)	424,600	0.87	0.87	977
Cordilleras Mutual Water Association	3,263	0.01	0.01	8
Palomar Pk.Co.Water Dist.	20,251	0.04	0.04	47
Woodside (Calif. Water Service Company)	603,666	1.23	1.23	1,390
Bear Gulch District (Calif.Water Serv. Co.)	1,985,396	4.06	4.07	4,570
Menlo Park, City of	1,886,227	3.85	3.86	4,342
Menlo Park (Calif. Water Service Company)	2,275,460	4.65	4.66	5,238
East Palo Alto Water Dist. (Formerly Ravenswood Water District)	1,088,893	2.22	2.23	2,506
Skyline County Water Dist.	35,801	0.07	0.07	82
Estero Municipal Improvement District	917,143	1.87	1.88	2,111

DELIVERIES AND CONSUMPTION
FROM
SAN FRANCISCO WATER DEPARTMENT SOURCES
FISCAL YEAR 1971-72

(continued)

Area, Utility or District	Metered Delivery 100 Cu.Ft. Year	Metered Delivery MGD	Consumption (1) MGD	Consumption (1) Ac. Ft. Year
San Mateo County (cont'd)				
Los Trancos Co.Water Dist.	23,146	0.05	0.05	53
City of San Francisco				
County Jail (2)	302,516	0.62	0.62	696
Social Services (2)	4,551	0.01	0.01	10
Hassler Hospital (2)	26,045	0.05	0.05	60
Other Water delivered in San Mateo County	619,119	1.26	1.26	1,425
Total for San Mateo Co.	39,961,682	81.67	81.89	91,983
Santa Clara County				
Palo Alto, City of	8,568,458	17.51	17.56	19,723
Purissima Hills County Water District	561,850	1.15	1.15	1,293
Mountain View, City of	3,770,770	7.71	7.73	8,680
Moffett Field	915,828	1.87	1.88	2,108
Sunnyvale, City of	4,560,546	9.32	9.34	10,497
Agnew State Hospital	7,409	0.02	0.02	17
Milpitas, City of	2,604,982	5.32	5.34	5,996
San Jose, City of	77,182	0.16	0.16	178
Other Water delivered in Santa Clara County	601,516	1.23	1.23	1,385
Total for Santa Clara Co.	21,668,541	44.29	44.41	49,877

DELIVERIES AND CONSUMPTION FROM SAN FRANCISCO WATER DEPARTMENT SOURCES (continued)

FISCAL YEAR 1971-72

Area, Utility or District	Metered Delivery 100 Cu.Ft. Year	Metered Delivery MGD	Consumption (1) MGD	Consumption (1) Ac. Ft. Year
Alameda County				
Alameda County Water District	2,680,772	5.48	5.50	6,171
Newark (various consumers)	156,067	0.32	0.32	359
Hayward Muni.Water System	7,416,170	15.16	15.20	17,070
Atomic Energy Commission Livermore (2)	311,029	0.63	0.63	716
Sunol				
Domestic Supply	34,864	0.07	0.07	80
Water Dept. Lands (2) From Transmission Lines	225,769	0.46	0.46	520
Water Dept. Lands (2) Est'd Not From Transmission Lines	85,750	0.17	0.17	197
Vallecitos	306,771	0.63	0.63	706
Castlewood Country Club	122,380	0.25	0.25	282
Pleasanton Well Field Agricultural Use (2) Estimated	391,159	0.80	0.80	900
Other Water Delivered in Alameda County	433,895	0.89	0.89	999
Total for Alameda County	12,164,626	24.86	24.92	28,000
Total for San Mateo, Santa Clara and Alameda Counties	73,794,849	150.82	151.22	169,860
Total for San Francisco County	48,976,442	100.09	103.75	116,550

DELIVERIES AND CONSUMPTION FROM SAN FRANCISCO WATER DEPARTMENT SOURCES (continued)

FISCAL YEAR 1971-72

Area, Utility or District	Metered Delivery 100 Cu.Ft. Year	Metered Delivery MGD	Consumption (1) MGD	Consumption (1) Ac. Ft. Year
Total for San Francisco Water Dept. System	122,771,291	250.91	254.97	286,410

(1) Consumption is system input. The difference between "consumption" and "Metered delivery" consists of system losses and uses, including leakage, losses due to pipe breaks, under-registration of meters, water used at hydrants that is not billed (fire use in San Francisco averaged 0.03 mgd), blowoff water, water used for Water Department operating purposes, evaporation from distribution reservoirs and other similar losses.

(2) This water is not included in the tabulation of water sold.

REVENUE

The Water Department is entirely self-supporting. All operating costs, taxes, capital costs, bond interest and bond redemption are paid from revenues. In addition, the Department furnishes free water to other San Francisco city departments that are tax supported.

Water Sales were 4.4% greater than for the previous year. Net sales in San Francisco produced 51.9% of the water sales revenue, with the balance of 48.1% coming from deliveries outside of the city.

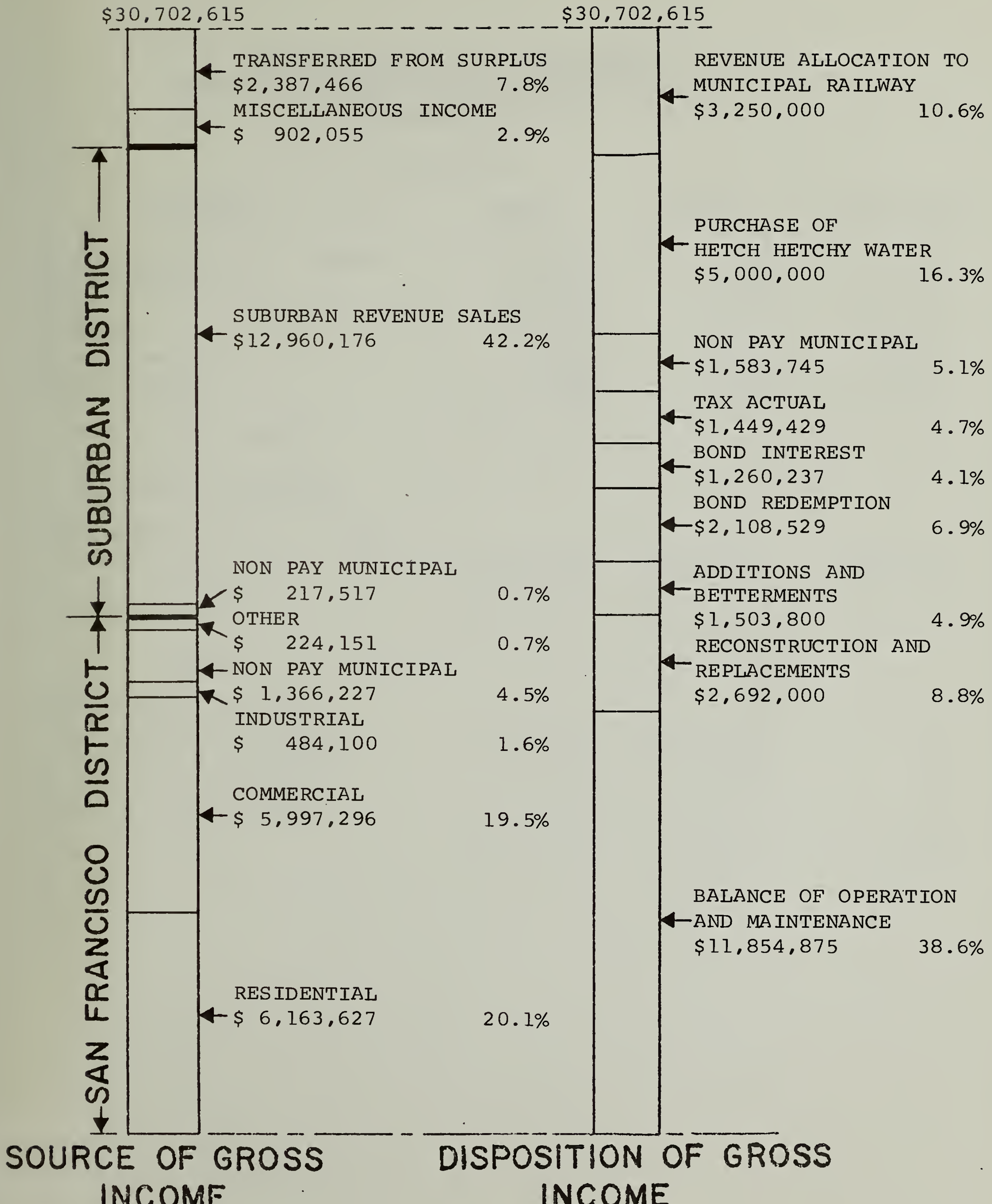
It may be noted that the revenue percentages continue to be higher for San Francisco sales even though the suburban area now receives nearly 60% of all deliveries.

	Metered Quantities	Revenue
San Francisco	40.2%	51.9%
Suburban	59.8%	48.1%

This occurs because the larger quantities of water delivered to a single account for resale fall in a lower unit price bracket than the numerous small consumer accounts within the city.

Other Income includes such items as: rentals, crop shares and royalties amounting to $674,483; walnut orchard crop $24,139; and interest on bank balances of $143,240.

The following tables give detail of revenue sources and expenditures:



FISCAL YEAR ENDING 6-30-72

SAN FRANCISCO WATER DEPARTMENT
COMPARISON OF ESTIMATED AND ACTUAL RECEIPTS
FISCAL YEAR 1971-72

RECEIPTS

REVENUES	BUDGET	ACTUAL	-UNDER,OVER
Revenue from Sale of Water	$26,000,000	$25,975,826	$- 24,174
New Installations	75,000	110,852	35,852
Rents	700,000	595,996	-104,004
Interest	110,000	143,240	33,240
Sale of Walnuts	26,000	24,139	- 1,861
Miscellaneous	20,000	27,828	7,828
TOTAL GROSS REVENUE	$26,931,000	$26,877,881	$- 53,119
RECEIPTS BY TRANSFER			
From Unappropriated Revenue (Prior Year)	$ 2,446,965	$ 2,240,989	$-205,976
TOTAL RECEIPTS	$29,377,965	$29,118,870	$-259,095
LESS			
Allocation of Revenue to Municipal Railway	$-3,250,000	$-3,250,000	$ 0
Allocation of Revenue to Hetch Hetchy Project	-5,000,000	-5,000,000	0
Unappropriated Revenue			
TOTAL BUDGET	$21,127,965	$20,868,870	$-259,095

SAN FRANCISCO WATER DEPARTMENT
COMPARISON OF BUDGETED AND ACTUAL EXPENDITURES (INCLUDING ENCUMBRANCES)
FISCAL YEAR
1971-72

DESCRIPTION	BUDGET	ACTUAL	-UNDER,OVER
Permanent Salaries	$ 3,347,931	$ 3,167,706	$-180,225
Allowance for Overtime	30,919	28,566	- 2,353
Allowance for Holidays	25,817	19,418	- 6,399
Extended Work Week	67,352	67,323	- 29
Temporary Salaries	89,000	68,903	- 20,097
Wages	3,765,327	3,973,043	207,716
Wages - Gardeners	188,378	185,311	- 3,067
	$ 7,514,724	$ 7,510,270	$- 4,454
Contractural Services	972,682	1,025,509	52,827
Materials & Supplies	923,000	931,992	8,992
Compensation Insurance	45,000	59,825	14,825
Injuries & Damages	30,000	17,657	- 12,343
Fidelity & Damages	1,950	466	- 1,484
Automobile Insurance	28,000	27,960	- 40
Fire Insurance	3,893	3,893	0
Other Insurance	11,778	17,683	5,905
Commissions for Collections	19,000	13,521	- 5,479
Assessments	15,000	6,839	- 8,161
Membership Dues	750	925	175
Fees, Licenses & Permits	8,000	5,138	- 2,862
Retirement Allowance	965,513	863,377	-102,136
Social Security	248,452	231,859	- 16,593
Health Service System	67,074	57,866	- 9,208
Taxes	1,500,000	1,449,429	- 50,571
Rents	1,810	5,692	3,882
Services of Other Departments	395,170	365,361	- 29,809
Electronic Data Processing	529,526	529,526	0
TOTAL OPERATING BUDGET	$13,281,322	$13,124,788	$-156,534
Equipment	195,809	179,516	- 16,283
Additions & Betterments	1,503,800	1,503,800	0
Reconstruction & Replacement	2,692,000	2,692,000	0
Bond Interest & Redemption	3,455,034	3,368,766	- 86,278
TOTAL BUDGET	$21,127,965	$20,868,870	$-259,095

ADDITIONS, BETTERMENTS, RECONSTRUCTION AND REPLACEMENTS

During the fiscal year this Department handled 57 formal construction contracts valued at $21,700,106. Thirty-nine of the 57 were new contracts awarded during the year, of which 23 were completed, 9 were under construction, and 7 were not started. Eighteen contracts were carried over from the previous year, of which 15 were completed during the fiscal year.

The money actually spent on contracts during the fiscal year ending June 30, 1972, including the engineering and inspections cost bid by the contractor on the cast iron main contracts, was approximately $8,503,831.

At the beginning of the year major emphasis focused on the completion of construction of the San Andreas Water Filtration Plant. The plant was completed on May 31, 1972, and together with the Sunol Valley Water Filtration Plant enables the Department to provide filtered water to consumers from all local sources.

The second most important project is the completion of Bay Division Pipeline No. 4. Construction started on the final portion (Section "C") on August 2, 1971, and construction was 53 percent completed on June 30, 1972. When completed and in operation, Bay Division Pipeline #4 Section "C" will increase the transmission capacity to the Peninsula from about 235 to 307 million gallons per day.

The completion of the Crystal Springs Balancing Reservoir and Pumping Station was considered the next most important project. Final Plans and Specifications for the project were received from Brown and Caldwell-Montgomery, and bids for this contract were to be received on July 10, 1972. Jones and Stokes Associates, Inc.'s report on "Environmental Impact Statement, Crystal Springs Balancing Reservoir" was completed and copies forwarded to San Mateo County Planning Commission.

The 60-inch Crystal Springs Pipeline No. 3 from Hillsborough to Millbrae, a distance of approximately 18,600 feet, was 92 percent complete at the beginning of the year and completed September 15, 1971.

During this year several Professional Services Agreements were arranged and work under existing agreements was continued. This type of agreement is used for the performance of work that requires specialized experience and personnel or for work that the Department cannot accomplish on schedule because qualified personnel are already engaged on projects on high priority.

Professional services contracts and agreements for the fiscal year are as follows:

1. Professional Services for Embankment Investigation and Preparation of Plans and Specifications for New Lining, Roof and Appurtenant Structures at Stanford Heights Reservoir in San Francisco - James M. Montgomery, Consulting Engineers, Inc.

2. Waste Water Survey - The Pitometer Associates.

3. Professional Services - Plans, Specifications and Consulting Services During Construction of Addition to Sunol Valley Water Filtration Plant - Brown and Caldwell - Montgomery.

4. Professional Services Relating to Reconstruction of Crystal Springs Chlorination Station - Dean S. Kingman, Consulting Engineers.

5. Professional Services Relating to the San Andreas Water Filtration Plant and the Crystal Springs Water Filtration Plant - Joint Venture of Brown and Caldwell and James M. Montgomery, Consulting Engineers.

6. Professional Services - Additional Studies of Water Rates - Brown and Caldwell, Consulting Engineers.

7. Professional Services - Design of Hunters Point Reservoir - Kirker, Chapman & Associates.

8. Professional Services - Plans, Specifications and Consulting Services During Construction of Balancing Reservoir for Crystal Springs By-pass Tunnel and Appurtenant Pumping Station - Brown and Caldwell - Montgomery.

9. Professional Services - Borings, Soil Tests and Stability Analysis for Calaveras Dam in Alameda County - W. A. Wahler & Associates.

10. Professional Services - Inspection and Evaluation of the Structural Integrity of the Dumbarton Pipeline Bridge - McCreary-Koretsky International, Inc.

11. Professional Services - Design and Installation of a Centralized Data Acquisition and Control System - Brown and Caldwell.

12. Professional Services - Design and Installation of a Cathodic Protection System - Corrosion Engineering and Research Co., Consulting Engineers.

13. Professional Services - Preliminary Design Study of a Data Acquisition and Control System for the City Distribution Division - Brown and Caldwell, Consulting Engineers.

14. Professional Services - Study of Environmental Impact of Proposed Crystal Springs Balancing Reservoir and Pumping Station near Pulgas Temple in San Mateo County - Jones and Stokes Associates, Inc.

Existing cathodic protection stations along the transmission mains were inspected regularly and adjusted to insure adequate protection to the pipelines in the most corrosive areas. New construction on all pipelines is including electrical continuity, plus electrolysis test leads at reasonable locations.

On August 10, 1971 a contract was awarded to The Pitometer Associates for additional leak surveys. The approved cost of work under this contract to June 30, 1972 was $18,964.

Under this new contract leak surveys were conducted on 58.6 miles of water mains in four districts. Fourteen leaks were located and repaired, reducing waste of 100,000 gallons per day from underground leakage and 60,000 gallons per day from gate leakage.

The 6 major projects authorized by the $115,000,000 Water Supply Improvement Bond Issue at the 1961 election were proceeding on a revised schedule. Construction of the Crystal Springs Pipeline No. 3, Hillsborough to Millbrae Section, was completed during the year.

The remaining projects or units of projects and their tentative beginning construction dates are as follows:

1.	1971	Bay Division Pipeline No. 4 Section C (53% complete on June 30, 1972)	$5,567,100
2.	1973	Crystal Springs Pump Station Improvements	870,000
3.	1973	Balboa Reservoir - Lining, Roof and Appurtenances, South Basin	3,200,000

FORMAL CONTRACTS:

The work under formal contracts has been separated into two main categories: Replacements and Additions to City pipe system, and Replacements and Additions to supply, transmission, treatment and miscellaneous facilities. Twenty-nine contracts valued at $2,836,682 were for additions, replacements and relocations to the City pipe system and 23 contracts valued at $11,033,320 were for replacements and additions to supply, transmission, treatment and miscellaneous facilities.

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1380	Rehabilitation of Stanford Heights Reservoir	General	6	Arntz Bros.	6-17-69	10-31-71	100	$1,043,000.00	$1,033,160.02
1410	Lay 4",6" and 8" DIM in Broadway, Jones, and Other Streets	C.D.D.	7	Bepco, Inc.	3-23-71	8-25-71	100	93,938.00	89,611.50
1415	Constr. of Crystal Springs Bypass Fluoridation Bldg. (in San Mateo County)	Peninsula	14	Albay Constr. Co.	2-9-71	12-31-71	100	153,814.00	152,803.50
1422	Lay 6" DIM in Geary Blvd., Shoreview Dr. and Others	C.D.D.	6	W.L. Fairey	5-25-71	7-26-71	100	36,204.00	35,989.30
1425	Constr. of Crystal Springs Chlorine Station (in San Mateo County)	Peninsula	11	Wilco Constr. Co.	4-28-70	9-1-71	100	176,100.00	176,100.00
1438	Furnishing and Installing Utilities for Caretaker's Cottage, Turner Dam, Alameda County	Alameda	8	Power-Anderson, Inc.	2-8-72		90	35,491.00	24,840.13
1440	San Andreas Water Filtration Plant	Peninsula	6	Engstrum & Nourse, Stolte, and Monterey Mechanical Co., (a Joint Venture)	10-28-69	5-31-72	100	7,482,000.00	7,596,702.49
1448	Alterations to 425 Mason St. Bldg.- San Francisco	General	12	Madsen Constr. Co.	4-13-71	10-26-71	100	41,525.25	44,977.75

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1450	Constr. of 60" Crystal Springs Pipeline No. 3, Hillsborough to Millbrae	Peninsula	3	Underground Constr. Co., Inc.	3-10-70	9-15-71	100	$1,996,482.00	$2,015,014.75
1482	Excavation and Repaving for Water Service Trenches	C.D.D.	4	Bepco, Inc.	7-13-71	11-4-71	100	90,871.00	83,981.00
1485	Installation of Control Valves at Calaveras Aerator	Alameda	6	E. H. Morrill Co.	12-22-70	10-28-71	100	69,993.00	72,476.24
1487	Relocation of Pipelines and Appurtenances North of Baden Pump Station	Peninsula	7	Hood Corp.	11-24-70		93	192,980.00	162,117.99
1488	(D.P.W. Contract)								
1491	(D.P.W. Contract)								
1495	Excavation and Repaving for Water Service Trenches	C.D.D.	4	Bepco, Inc.	4-27-71	8-20-71	100	42,444.00	40,720.30
1496	Excavation and Repaving for Water Service Trenches	C.D.D.	1	Lowrie Paving Co., Inc.	8-24-71	12-13-71	100	88,062.00	86,073.60
1497	Excavation and Repaving for Water Service Trenches	C.D.D.	5	Bepco, Inc.	11-9-71	3-22-72	100	99,312.50	100,169.75
1499	Laying of 24" and 20" Steel Mains in Guerrero and Laguna Streets	C.D.D.	6	McGuire and Hester	2-22-72		57	341,421.40	150,849.72

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1500	Clean and Recoat Bay Division Pipelines No. 1 and No. 2 between Newark Slough, etc.	Alameda	5	Clark Painting Co.	4-27-71	11-15-71	100	$147,840.00	$155,067.00
1503	(D.P.W. Contract)								
1504	Motorized Valves at Various Locations	General	3	Bayside Pump & Engineering Co.	2-23-71	12-17-71	100	19,000.00	19,000.00
1505	Construction of Bay Division Pipeline No. 4, Section C	Peninsula	10	Hood Corp.	6-22-71		53	5,567,100.00	2,944,608.26
1506R	Lay 12", 16" D.I. and 18" Steel Mains in Turk St. between Buchanan and Taylor Sts.	C.D.D.	5	L.J. Krzich	7-13-71	6-2-72	100	207,195.50	207,015.75
1507	Constr. of Hunters Point Reservoir	General	7	L.R. Yegge Co.	5-9-72		-0-	293,150.00	-0-
1509	Lay 12", 8" and 6" D.I. Mains in 12th St., Grove St., Quintara St. and others	C.D.D.	4	Associated Pipeline, Inc.	7-27-71	11-18-71	100	107,869.20	104,234.55
1511	Lay 6" D.I. Main in Dolores St. between 26th St. and San Jose Ave.	C.D.D.	6	Lowrie Paving Co., Inc.	7-27-71	11-19-71	100	67,565.00	73,986.45
1512	(D.P.W. Contract)								

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1513	Lay 4", 8" and 12" D.I. Mains in Mission St. and the Embarcadero	C.D.D.	7	Lowrie Paving Co., Inc.	4-27-71	7-30-71	100	$44,913.75	$44,015.83
1514	Lay 4" and 8" D.I. Mains in Powell and Post Sts.	C.D.D.	2	Associated Pipeline, Inc.	7-13-71	11-15-71	100	83,086.00	81,400.00
1516	Lay 4" and 6" D.I. Mains in DeLong, Liebig and Other Streets	C.D.D.	5	Lowrie Paving Co., Inc.	12-14-71	3-24-72	100	67,172.20	71,593.02
1517	Lay 16" D.I. Main in Evans Ave. and Jennings St.	C.D.D.	6	W.L. Fairey	7-13-71	12-28-71	100	146,460.00	145,849.92
1518	Annual Repaving Contract-Fiscal Year Ending 6-30-72	C.D.D.	3	Pacific Pavements Co., Ltd.	4-27-71		95	362,000.00	284,565.00
1519	Lay 6" DIM in Alder St. between Ankeny and Harkness Sts.	C.D.D.	2	W.L. Fairey	5-25-71	10-1-71	100	10,425.00	9,892.32
1521	Lay 4", 6", 8", 12" and 16" D.I. Mains in Market St. between 5th and 9th Sts.	C.D.D.	3	Homer J. Olsen, Inc.	7-27-71		79	456,254.00	164,263.95
1523	Lay 4", 6", 8", 12" and 16" D.I. Mains and 22" Steel Main in Market St. between Steuart St.,etc.	C.D.D.	2	McGuire and Hester	8-24-71		43	620,292.00	127,090.66
1524	Lay 6" D.I.M. in Peralta and Mojave Sts.	C.D.D.	3	McGuire and Hester	7-27-71	12-30-71	100	10,973.00	10,464.80

-D-

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1525	Lay 6" D.I.M. in Stanyan St. between Grove and Hayes St.	C.D.D.	5	Lowrie Paving Co., Inc.	6-22-71	8-12-71	100	$10,085.00	$9,048.07
1526	Rehabilitate Water Supply in Sunol Orchard (in Alameda County)	Alameda	9	R.M. Maloney, Inc.	11-23-71	1-24-72	100	21,129.00	21,457.00
1530	Constr. of Fences on Water Dept. Properties in San Mateo County	Peninsula	6	Dalzell Corp.	12-14-71	4-6-72	100	38,775.50	40,636.40
1531	Constr. of Fences and Motorized Gate at Sunol	Alameda	5	Tholl Fence Co.	6-13-72		-0-	19,725.00	-0-
1533	Surfacing Roads on Water Dept. Properties in Alameda County	Alameda	5	Les McDonald Constr. Co.	10-26-71	3-7-72	100	15,020.00	15,119.25
✓ 1534	Rehabilitation of Alemany Pump Station	General	3	Madsen Const. Co.	8-24-71	12-8-71	100	9,832.00	9,832.00
1535	Excavation and Repaving for Water Service Trenches	C.D.D.	4	Lowrie Paving Co., Inc.	2-8-72	5-10-72	100	81,100.00	88,790.45
1536	Excavation and Repaving for Water Service Trenches	C.D.D.	4	Bepco, Inc.	9-28-71	1-4-72	100	79,954.00	75,753.65
1537	Excavation and Repaving for Water Service Trenches	C.D.D.	2	Lowrie Paving Co., Inc.	4-25-72		89	79,945.00	60,541.15

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1539	Lay 8" D.I. Main in Red Rock Way East of Duncan St.	C.D.D.	4	Dalton Construction	4-25-72		24	$19,493.80	$2,480.17
1541	Constr. of Caretaker's Cottage at Turner Dam near Sunol	Alameda	2	Paul F. Klingborg	2-8-72		80	38,051.15	29,967.00
1542	Replacement of Portions of Pleasanton Pipeline	Alameda	8	Mission Pipeline, Inc.	8-24-71	11-9-71	100	55,970.00	56,192.00
1545	Lay 6" D.I. Main in Waller St. between Buena Vista Ave. and Alpine Terrace	C.D.D.	4	Associated Pipeline, Inc.	11-9-71	1-5-72	100	16,817.00	15,043.10
1548	Excavation and Repaving for Water Service Trenches	C.D.D.	4	Bepco, Inc.	5-23-72		-0-	46,874.00	-0-
1551	Rehabilitate Niles Reservoir Roof (in Alameda County)	Alameda	5	Bishop Roofing, Inc.	3-14-72	6-1-72	100	40,163.00	40,036.00
1553	Constr. of Fencing at University Mound Reservoir and Corporation Yard	General	3	Tholl Fence, Inc.	11-9-71	1-19-72	100	4,386.00	4,374.00
1554	Installation of Reservoir Leakage Alarm System	General	2	Brayer Electric Co.	12-28-71	5-11-72	100	7,350.00	7,350.00

TABLE NO. 26

CONTRACT DATA 1971-72

Contract No.	Title of Contract	Division	Number of Bid-ders	Contractor	Date of Award	Date of Completion	% Complete 6-30-72	Bid Price	Total Cost to 6-30-72
1555	(D.P.W. Contract)								
1559	Cement Mortar Line 20", 22", 23" & 24" Pipe in 4th Ave., Calif. & Lyon Streets	C.D.D.	2	Ameron, Inc.	11-23-71	3-16-72	100	$128,447.00	$124,647.00
1560	(D.P.W. Contract)								
1562	Reconditioning Baden Merced Pipeline between Baden Pump Sta. and San Pedro Road	Peninsula	2	Ameron, Inc.	1-25-72		98	167,252.50	154,572.03
1563	Lay 6", 8" and 16" D.I. Mains in Geary Blvd. between Wood and Lyon Sts.	C.D.D.	5	Lowrie Paving Co., Inc.	3-14-72		77	54,273.50	22,015.21
1564	Lay 20" Steel Main in Wood, Anza, O'Farrell and Lyon Streets	C.D.D.	4	Underground Constr. Co., Inc.	3-28-72		-0-	153,096.00	-0-
1572	Repairing Slide on Road to Turner Dam Outlet Structure	Alameda	7	Remill Corp.	4-11-72		100	22,302.00	22,100.40
1576	Annual Repaving Contract-Fiscal Year Ending 6-30-73	C.D.D.	3	Pacific Pavements Co. Ltd.	5-9-72		-0-	375,840.00	-0-
1577	Lay 4" and 6" D.I. Mains in Bishop St. between Ankeny St. and Harkness Ave.	C.D.D.	3	Everson Constr. Co.	5-23-72		-0-	12,515.00	-0-
1580	Lay 6" D.I. Main in Yale Street-South of Felton St.	C.D.D.	4	W.L. Fairey	6-13-72		-0-	6,776.10	-0-

-G-

LAND, LEASES AND PERMITS

LAND TRANSACTIONS:

On June 30, 1971 there were 62,952.999 acres of land owned by the Department. There were no purchases but 0.948 acres were sold during this fiscal year, leaving 62,952.051 acres owned by the Department on June 30, 1972.

Detailed purchases and sales are:

	PURCHASES (Acres)	SALES (Acres)
PURCHASES	-0-	
SALES		
Parcel 57 - Mayhew Tract Parcel 10		0.948
Net Decrease in Acres		0.948

LEASES AND PERMITS:

During the fiscal year 81 revocable permits were prepared and 13 were cancelled. Four leases were prepared.

The preparation of legal descriptions of real property and accompanying maps showing the boundaries and location of property to be leased, disposed of or acquired, totaled some 81 parcels this year. Revocable permits with appropriate terms and conditions, with accompanying maps, totaling 81 were prepared. There were 28 court actions in connection with condemnations and quieting of title actions for which 40 exhibits and the supporting data were prepared. All of this work mentioned above is done in the Engineering Division where extensive records of the Department's real property are maintained.

LAND AND AGRICULTURE:

1971-72

Miscellaneous Income from Rentals	$ 666,903
Walnuts	24,139
TOTAL	$ 691,041

TAXES:

The Department paid total property taxes in other counties as follows:

In Alameda County	$ 692,662
In Santa Clara County	112,687
In San Mateo County	644,080
Total taxes paid in other counties	$1,449,429

ACCOUNTING AND AUDITING

The accounts of the San Francisco Water Department are maintained strictly in accordance with the requirements of the California State Public Utilities Commission and Section 64 of the City Charter. The accounts of the Department have been so coordinated with the Controller's system that no encumbrance or expenditure against budget estimates can be incurred without prior certification from the Controller that funds are available. As provided in Ordinance 9.0621, an annual audit of the Department is made as of June 30 by a firm of certified public accountants.

Operating Expenses show a net increase of $2,155,822.38 as shown by the following tabulation:

OPERATING REVENUE DEDUCTIONS	Increase	Decrease
Source of Supply	$ 41,591.86	
Pumping Expenses		$ 50,126.33
Purification Expenses	94,713.95	
Transmission & Distributions Expenses	537,298.09	
Customers Accounts Expenses	117,851.52	
Administrative and General	700,885.54	
*Municipal Taxes, Comparison	90,935.93	
Miscellaneous Expenses		11,747.10
Taxes Actual	3,081.92	
Provision for Depreciation	131,337.00	
Standby Charge & Purchase of Water	500,000.00	
Net Increase		2,155,822.38
	$2,217,695.81	$2,217,695.81

*Water delivered to Municipal Departments offset by taxes.

An analysis of Revenue and Operating Expenses is shown in the following Exhibits "A" through "E".

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "A"

BALANCE SHEET
JUNE 30, 1972

ASSETS AND OTHER DEBITS

UTILITY PLANT:			
Water Plant in Service		$ 196,143,661.00	
Less Reserve for Depreciation		59,921,961.00 ✓	$ 136,221,700.00
Construction Work in Progress:			
Water Department		2,642,720.65	
1961 Bond Fund		4,533,011.15	7,175,731.80
TOTAL UTILITY PLANT			143,397,431.80
CURRENT AND ACCRUED ASSETS:			
Cash (See Schedule 1)		12,314,971.79	
Accounts Receivable (See Schedule 2)	4,302,363.33		
Less Reserve for Uncollectible Acct.	12,000.00	4,290,363.33	
Notes Receivable		36,716.00	
Interfund Accounts Receivable (See Schedule 3)		322,841.33	
Materials and Supplies		697,941.27	
TOTAL CURRENT & ACCRUED ASSETS			17,662,833.72
DEFERRED DEBITS:			
Work in Progress		286,777.72	
Suspense Debits (See Schedule 4)		8,186,910.45	
Encumbrances (Contra)		10,279,637.65	
TOTAL DEFERRED DEBITS			18,753,325.82
TOTAL ASSETS AND OTHER DEBITS:			$ 179,813,591.34

LIABILITIES AND OTHER CREDITS

LONG-TERM DEBT:			
Bonds -(See Schedule 5)			$ 35,683,828.00
CURRENT AND ACCURED LIABILITIES:			
Customers' Deposits		$ 74,693.46	
Accounts Payable - (See Schedule 6)		3,141,564.04	
Interfund Accounts Payable - (See Schedule 7)		557,415.16	
Matured Long-Term Debt - 1928 Bond		3,000.00	
Matured Interest - 1928 Bond		(67.50)	
Interest Accrued - 1928 Bond			
TOTAL CURRENT AND ACCRUED LIABILITIES			3,776,605.16
DEFERRED CREDITS:			
Suspense Credits		3,529,684.34	
Advances for Construction		30,999.62	
Orders for Work - Cash Advances		236,883.40	
Utility Tax Billed		53,918.15	
Sewer Service Charges Billed		1,354,311.59	
Rental Deposits and Payments made in Advance		6,735.00	
TOTAL DEFERRED CREDITS			5,212,532.10
RESERVES:			
Injuries and Damages Reserve		75,000.00	
Reserve for Refunds			
Funded	$ 59,584.02		
UnFunded	244,806.54	304,390.56	
Reserve for Contractors Damage Claims		29,637.22	
Reserve for Encumbrances (Contra)		10,279,637.65	
TOTAL RESERVES			10,688,665.43
SURPLUS:			
Surplus (See Detail on Sheet 6)			124,451,960.65
TOTAL LIABILITIES AND OTHER CREDITS:			$ 179,813,591.34

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT B
COMPARATIVE INCOME STATEMENT
TWELVE MONTHS ENDING JUNE 30, 1972

TITLE	FISCAL YEAR 1971 - 1972	FISCAL YEAR 1970 - 1971	1971 - 1972 INCREASE (DECREASE)	MARCH 03, 1930 TO JUNE 30, 1972
OPERATING INCOME:				
Sale of Water	$ 27,413,094.29	$ 26,264,218.10	$ 1,148,876.19	$ 547,217,605.48
OPERATING REVENUE DEDUCTIONS:				
Operating Expenses	13,628,487.64	12,107,084.18	1,521,403.46	192,637,553.90
Purchase of Water	5,000,000.00	4,500,000.00	500,000.00	107,346,061.92
Depreciation	2,881,711.00	2,750,374.00	131,337.00	56,494,541.46
Taxes - Actual	1,495,632.78	1,492,550.86	3,081.92	26,763,400.71
TOTAL OPERATING REVENUE DEDUCTIONS	23,005,831.42	20,850,009.04	2,155,822.38	383,241,856.99
UTILITY OPERATING INCOME	4,407,262.87	5,414,209.06	(1,006,946.19)	163,975,748.49
OTHER INCOME:	1,767,041.79	1,532,206.96	234,834.83	26,875,456.87
GROSS INCOME	6,174,304.66	6,946,416.02	(772,111.36)	190,851,205.36
INCOME DEDUCTIONS:	1,142,167.45	1,100,620.29	41,547.16	52,034,812.14
INCOME TRANSFERRED TO NET CAPITAL INVESTMENT	$ 5,032,137.21	$ 5,845,795.73	$ (813,658.52)	$ 138,816,393.22

House Rent	7,580.00	
Rents - Including Share-Crops	666,902.54	
Contractor's Damage Claims	(28,209.32)	
Interest Revenue	143,239.70	
Turn-On Fees	4,905.00	
Fixed Asset Sales	276,424.54	
Miscellaneous	672,060.47	
Walnut Orchard	24,138.86	
TOTAL OTHER INCOME		$1,767,041.79
Non-Operating Revenue Deductions	136,440.70	
Interest on Long-term Debt	1,005,726.75	
TOTAL INCOME DEDUCTIONS		$1,142,167.45

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT C
NET CAPITAL INVESTMENT
JUNE 30, 1972

	1961 M.W.S. BOND FUND	S.F.W.D.	TOTAL
NET CAPITAL INVESTMENT - JUNE 30, 1971	$ 7,531,520.50	$ 115,204,271.27	
ADD:			
Adjustment of Prior Years Surplus		(65,963.33)	
Bond Sold (Series J)	1,505,112.00	5,032,137.21	
Net Income for Twelve Months ending June 30, 1972		2,676,565.26	
Completed Contracts Capitalized, Contract - 1450			
Equipment Transfer			
Interest capitalized by Bond Fund	264,137.74		
Prepaid interest on Series J		5,299.95	
Transfer of Completed Contracts			
	9,330,770.24	122,852,305.36	
DEDUCT:			
Book Value of Plant Appraisal - June 30, 1968			
Interest capitalized by Bond Fund		269,437.69	
Bonds Sold (Series J)		1,505,112.00	
Completed Contracts Capitalized	2,676,565.26		
Equipment Transfer			
Cancellation of Capitalizing Contract 1469 Shown Above			
Transfer of Completed Contracts			
Allocated to General Fund		3,250,000.00	
NET CAPITAL INVESTMENT - JUNE 30, 1972	$ 6,624,204.98	$ 117,827,755.67	$ 124,451,960.65

EXHIBIT D
COMPOSITION OF
NET CAPITAL INVESTMENT CONDENSED
JUNE 30, 1972

INITIAL CAPITAL INVESTMENT - MARCH 3, 1930		$ 4,152,652.24		
Amortization of Contribution (Spring Valley)		100,000.00		
Valuation of Municipal Water Works		4,252,652.24		
LESS:				
Additional allowance for Depreciation - March 1, 1920 to March 3, 1930		2,327,916.67	$ 1,924,735.57	
ADDITIONS:				
Net Income - March 3, 1930 to June 30, 1972		138,816,393.22		
Miscellaneous and year to year adjustments		6,764,366.86		
Allocations from Hetch Hetchy Power Division		409,471.41		
Allocations from 1947 Hetch Hetchy Water Bond Fund		290,516.71	146,280,748.20	
Grants earned on Federal Public Works Project			2,358,987.60	
Book Value of Plant Appraisal - June 30, 1948			83,864.03	$ 150,648,335.40
DEDUCTIONS:				
Allocated to General Fund			19,172,457.24	
Allocated to Hetch Hetchy Water Supply			4,466,014.40	
Lands Allocated to City & County of San Francisco for streets and boulevards			172,564.67	
Excess of adjusted book value of plant appraisal, December 31, 1937	$ 1,990,474.91			
Excess of adjusted book value of plant appraisal, June 30, 1953	188,291.42	2,178,766.33		
Book Value of plant appraisal, June 30, 1958		89,383.93		
Book Value of plant appraisal, June 30, 1963		91,365.18		
Book Value of plant appraisal, June 30, 1968		25,823.00	2,385,338.44	26,196,374.75
NET CAPITAL INVESTMENT - JUNE 30, 1972				$ 124,451,960.65

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT
EXHIBIT "E"

COMPARATIVE INCOME STATEMENT
JUNE 30, 1972

TITLE	FISCAL YEAR 1971 - 1972	FISCAL YEAR 1970 - 1971	1971-1972 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1972
OPERATING INCOME				
SALE OF WATER:				
Water Sales - San Francisco	$ 12,758,043.47	$ 12,795,107.80	$ (37,064.33)	
Water Sales - Outside San Francisco	12,960,175.67	11,862,851.75	1,097,323.92	
Water Sales - Municipal Departments - Actual	111,130.36	113,606.32	(2,475.96)	
Water Sales - Municipal Departments - Comparison	1,583,744.79	1,492,652.23	91,092.56	
TOTAL WATER SALES	27,413,094.29	26,264,218.10	1,148,876.19	$ 547,217,605.48
OPERATING REVENUE DEDUCTIONS				
SOURCE OF SUPPLY:				
Operation, Supervision and Engineering	121,270.50	131,741.17	(10,470.67)	
Operation, Labor and Expense	635,520.73	571,758.71	63,762.02	
Miscellaneous Expenses	419.14	898.23	(479.09)	
Maintenance, Supervision and Engineering	8.40	(156.43)	164.83	
Maintenance of Structure and Improvements	69,068.93	80,838.25	(11,769.32)	
Maintenance of Collecting and Impounding Reservoirs	285,604.64	328,910.02	(43,305.38)	
Maintenance of Lake, River and Other Intakes	2,131.53	459.37	1,672.16	
Maintenance of Springs and Tunnels	6,415.69	1,542.17	4,873.52	
Maintenance of Wells	5,722.31	5,596.34	125.97	
Maintenance of Supply Mains	148,411.72	111,412.86	36,998.86	
Maintenance of Other source of Supply Plant	49.63	30.72	18.96	
TOTAL SOURCE OF SUPPLY EXPENSES	1,274,623.27	1,233,031.41	41,591.86	$ 21,963,642.22
PUMPING EXPENSES				
Pumping Labor and Expenses	170,635.38	161,660.61	8,974.77	
Miscellaneous Supplies and Expenses	2,703.71	2,180.27	523.44	
Fuel or Power Purchased for Pumping	277,194.58	315,190.97	(37,996.39)	
Maintenance, Supervision and Engineering	51.04		51.04	
Maintenance of Structures and Improvements	19,343.90	10,772.27	8,571.63	
Maintenance of Primary Pumping Equipment	783.76	444.40	339.36	
Maintenance of Pumping Equipment	30,393.89	63,980.18	(33,586.29)	
Gardening	16,416.80	13,420.69	2,996.11	
TOTAL PUMPING EXPENSES	517,523.06	567,649.39	(50,126.33)	$ 14,322,625.68
PURIFICATION EXPENSE ACCOUNTS				
Operation, Supervision and Engineering	104,305.90	122,294.79	(17,988.89)	
Operation, Labor, and Expenses	458,287.71	386,310.48	71,977.23	
Miscellaneous Expenses	5,206.15	32,969.45	(27,763.30)	
Supplies and Expenses	313,768.78	294,424.37	19,344.41	
Maintenance, Supervision and Engineering				
Maintenance of Structures and Improvements	73,461.39	41,643.95	31,817.44	
Maintenance of Water Treatment Equipment	37,349.41	20,022.35	17,327.06	
TOTAL PURIFICATION EXPENSES	992,379.34	897,665.39	94,713.95	10,483,529.22

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT
EXHIBIT "E" (CONT'D.)
COMPARATIVE INCOME STATEMENT
JUNE 30, 1972

TITLE	FISCAL YEAR 1971 - 1972	FISCAL YEAR 1970 - 1971	1971 - 1972 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1972
OPERATING REVENUE DEDUCTIONS (CONT'D.)				
TRANSMISSION AND DISTRIBUTION ACCOUNT				
Operation, Supervision, and Engineering	291,794.43	265,117.19	26,677.24	
Storage Facilities Expenses	19,960.65	49,453.25	(29,492.60)	
Transmission and Distribution Lines Expenses	232,087.58	215,832.48	16,255.10	
Meter Expenses	352,832.86	338,188.20	14,644.66	
Customer Installation Expenses	413,298.44	425,675.50	(12,377.06)	
Miscellaneous	74,019.50	71,588.95	2,430.55	
Operating Expenses - City Yard	361,150.46	314,243.07	46,907.39	
Maintenance, Supervision and Engineering	5,600.00	20,496.85	(14,896.85)	
Maintenance of Structures and Improvements	158,920.36	151,546.99	7,373.37	
Maintenance of Reservoirs and Tanks	34,652.90	107,174.02	(72,521.12)	
Maintenance of Transmission Lines and Canals	148,478.86	164.804.21	(16,325.35)	
Maintenance of Services	1,240,441.64	860,500.75	379,940.89	
Maintenance of Miscellaneous Plant	137,386.74	124,396.70	12,990.04	
Maintenance of Distribution Mains, Canals, etc.	1,227,215.52	1,015,281.94	211,933.58	
Reconditioning of Salvaged Materials	1,386.00		1,386.00	
Recoverable Claims - Mains and Services	5,268.53	42,896.28	(37,627.75)	
TOTAL TRANSMISSION & DISTRIBUTION ACCOUNTS	4,704,494.47	4,167,196.38	537,298.09	$ 52,730,383.93
CUSTOMERS' ACCOUNTS EXPENSES				
Meter Reading Expenses	159,617.45	136,227.74	23,389.71	
Customer Records and Collection Expenses	222,231.03	207,433.95	14.797.08	
Miscellaneous Customer Accounts Expenses	226,475.80	182,601.03	43,874.77	
Inspection and Service	207,177.50	212,671.19	(5,493.69)	
Bookkeeping Department	238,975.92	223,759.83	15,216.09	
Shipping	32,476.37	6,408.81	26.067.56	
TOTAL CUSTOMER'S ACCOUNTS EXPENSES	1,086,954.07	969,102.55	117,851.52	24,477,302.09
ADMINISTRATIVE AND GENERAL				
Salaries - General Officers	45,598.46	42,370.96	3,227.50	
Salaries - General Office	200,348.34	221,506.02	(21,157.68)	
General Engineering	588,987.71	427,082.00	161,905.71	
Resources and Planning	42,806.71	38,680.95	4,125.76	
Office Supplies and other Expenses	33,048.11	28,986.70	4,061.41	
Telephone Service	72,983.08	84,043.68	(11,060.60)	
Mason Street Operating Expenses	117,480.72	95,869.23	21,611.49	
Municipal Taxes - Comparison	1,583,792.99	1,492,857.06	90,935.93	
Outside Services Employed		394.25	(394.25)	
Insurance - Compensation	88,925.04	45,679.67	43,245.37	
Insurance - Other	21,753.85	19,271.77	2,482.08	
Injuries and Damages	20,942.86	27,095.23	(6,152.37)	
Pensions	737,814.84	676,713.70	61,101.14	
Social Security	232,257.01	218,170.87	14,086.14	
Electronic Data Processing	598,406.38	204,412.84	393,993.54	
Public Utilities Commission	350,144.00	349,104.00	1,040.00	
Maintenance to Telephone System	9,680.18	7,828.21	1,851.97	
Maintenance to 425 Mason Street Building	16,982.36	20,097.33	(3,114.97)	
Maintenance to Radio System	12,797.47	12,172.58	624.89	
Inventory Expense - Maintenance	(4,812.31)	(759.60)	(4,052.71)	
Maintenance of Non-Operative Property	830.86	1,830.07	(999.21)	
Miscellaneous Maintenance	91,767.78	157,277.45	34,490.33	
TOTAL ADMINISTRATION AND GENERAL EXPENSES	4,962,511.44	4,170,689.97	791,821.47	67,268,742.0[illegible]

PUBLIC UTILITIES COMMISSION
SAN FRANCISCO WATER DEPARTMENT

EXHIBIT "E"(CONT'D.)
COMPARATIVE INCOME STATEMENT
JUNE 30, 1972

TITLE	FISCAL YEAR 1971 - 1972	FISCAL YEAR 1970 - 1971	1971 - 1972 INCREASE (DECREASE)	MARCH 3, 1930 TO JUNE 30, 1972
OPERATING REVENUE DEDUCTIONS (CONT'D.)				
MISCELLANEOUS EXPENSES				
Uncollectible Water Bills	$ 57,711.52	$ 31,299.06	$ 26,412.46	$
Provision for Contingent Funds	32,024.13	23,675.71	8,348.42	
Undistributed Operating Expenses	266.34	46,774.32	(46,507.98)	
TOTAL MISCELLANEOUS EXPENSES	90,001.99	101,749.09	(11,747.10)	1,390,358.10
TOTAL OPERATING REVENUE DEDUCTIONS	13,628,487.64	12,107,084.18	1,521,403.46	192,637,552.90
OPERATING EXPENSES				
Purchase of Water	5,000,000.00	4,500,000.00	500,000.00	
Depreciation	2,881,711.00	2,750,374.00	131,337.00	
Taxes - Actual	1,495,632.78	1,492,550.86	3,081.92	
TOTAL OPERATING EXPENSES	9,377,343.78	8,742,924.86	634,418.92	190,604,304.09
UTILITY OPERATING INCOME	4,407,262.87	5,414,209.06	(1,006,946.19)	163,975,748.49
OTHER INCOME				
Rentals, including Crop Shares	666,902.54	622,013.57	44,888.97	
Walnut Orchard Sales	24,138.86	25,000.00	(861.14)	
Miscellaneous (See Schedule 10)	656,336.15	718,974.42	(62,638.27)	
Interest Earned	143,239.70	151,659.23	(8,419.53)	
Sales of Real Estate and Fixed Assets	276,424.54	14,559.74	261,864.80	
TOTAL OTHER INCOME	1,767,041.79	1,532,206.96	234,834.83	26,875,456.87
GROSS INCOME	6,174,304.66	6,946,416.02	(772,111.36)	190,851,205.36
INCOME DEDUCTIONS				
Agricultural Division	136,440.70	75,756.91	60,683.79	
Interest on Long-Term Debt	1,005,726.75	1,024,863.38	(19,136.63)	
TOTAL INCOME DEDUCTIONS	1,142,167.45	1,100,620.29	41,547.16	52,034,812.14
NET INCOME TRANSFERRED TO SURPLUS	$ 5,032,137.21	$ 5,845,795.73	$ (813,658.52)	$ 138,816,393.22

BOND REDEMPTION AND INTEREST

WATER DEPARTMENT

	REDEMPTION	INTEREST	
	Muni Water System 1961	Muni Water System 1961	Total Redemption plus Interest
1971-72	2,108,529	1,260,237	3,368,766
1972-73	2,526,804	1,245,464	3,772,268
1973-74	2,639,948	1,152,576	3,792,524
1974-75	2,639,944	1,049,515	3,689,459
1975-76	2,639,945	949,430	3,589,375
1976-77	2,643,372	857,463	3,500,835
1977-78	2,643,373	769,421	3,412,794
1978-79	2,639,943	681,179	3,321,122
1979-80	2,639,946	592,760	3,232,706
1980-81	2,639,943	504,074	3,144,017
1981-82	2,639,946	415,164	3,055,110
1982-83	2,399,948	325,712	2,725,660
1983-84	1,511,969	243,327	1,755,296
1984-85	1,511,969	186,228	1,698,197
1985-86	1,426,258	130,072	1,556,330
1986-87	1,145,119	89,305	1,234,424
1987-88	545,133	64,607	609,740
1988-89	339,431	40,398	379,819
1989-90	219,424	24,428	243,852
1990-91	219,424	13,834	233,258
1991-92	71,999	3,240	75,239
	37,792,357	10,598,434	48,390,791

ORIGINAL AMOUNT AND INTEREST RATE

49,505,112 2¼% to 6%

TABLE OF CONTENTS

FOR APPENDIX TO

REPORT OF SAN FRANCISCO WATER DEPARTMENT

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TABLE 1

METERS - NUMBER AND SIZE IN SERVICE

SAN FRANCISCO DISTRICT AS OF JUNE 30, 1972

CLASS OF CONSUMERS	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	10"	12"	TOTAL
REVENUE PRODUCING												
Commercial	14,241	1,730	4,074	3,420	6,125	253	495	633	471	3	3	31,448
Residential	115,091	9,434	2,771	364	43							127,703
Docks & Shipping	93	12	30	37	125			1	3	2	0	303
Total	129,425	11,176	6,875	3,821	6,293	253	495	634	474	5	3	159,454
NON-REVENUE PRODUCING												
Commercial	1,303	46	84	69	68	7	7	11	8	1	0	1,604
Residential	967	44	12	0	0	0	0	0	0	0	0	1,023
Docks & Shipping	11	0	1	7	5	0	0	0	0	0	0	24
Total	2,281	90	97	76	73	7	7	11	8	1	0	2,651
TOTALS												
Commercial	15,544	1,776	4,158	3,489	6,193	260	502	644	479	4	3	33,052
Residential	116,058	9,478	2,783	364	43	0	0	0	0	0	0	128,726
Docks & Shipping	104	12	31	44	130	0	0	1	3	2	0	327
Total	131,706	11,266	6,972	3,897	6,366	260	502	645	482	6	3	162,105

Total Meters in Service as of June 30, 1972.		162,105
Less: Extra Meters in 1372 Batteries -- (3,934-1372)	2,562	
Extra Meters in 10 Consolidations (37-10)	27	
Non-Revenue Meters (Temporarily Shut- off)	2,651	5,240
Number of Active Accounts as of June 30, 1972		156,865

The above Meter count includes 2,494 Fire Services. At Docks & Shipping office, portable meters used on Hydrants as needed 27-1½" and 28-2" Meters.

PREVIOUS RECORDS	1967-68	1968-69	1969-70	1970-71	1971-72
Total Meters	162,613	162,406	162,334	162,344	162,105
Increase	410	- 207	- 72	10	- 239
Idle Meters	3,025	2,748	2,712	2,981	2,651

TABLE 2

METERS - NUMBER AND SIZE IN SERVICE

SUBURBAN DISTRICT AS OF JUNE 30, 1972

CLASS OF CONSUMERS	5/8"	3/4"	1"	1½"	2"	4"	6"	8"	10"	12"	16"	Total
REVENUE PRODUCING												
Regular Rates	357	36	34	18	111	19	88	100	25	5	7	800
Airport Use	12	10	16	10	40	5	10	13	4	2	0	122
Total	369	46	50	28	151	24	98	113	29	7	7	922
NON - REVENUE PRODUCING												
Regular Rates	3	0	1	1	5	2	4	5	2	0	0	23
Airport Use	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	1	1	5	2	4	5	2	0	0	23
TOTALS												
Regular Rates	360	36	35	19	116	21	92	105	27	5	7	823
Airport Use	12	10	16	10	40	5	10	13	4	2	0	122
Total	372	46	51	29	156	26	102	118	31	7	7	945

Total Meters in Service as of June 30, 1972		945
Less: Extra Meters in 93 Batteries and Consolidations (416-93)	323	
Non - Revenue Meters (Temporarily Shut - off)	23	346
Number of Active Suburban Accounts as of June 30, 1972		599

Note: The above Meter Count includes 13 automatic sprinklers for fire purposes.

PREVIOUS RECORDS	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
Total Meters	957	922	911	932	936	945
Increase	2	35	11	21	4	9
Idle Meters	21	20	14	16	15	23

TABLE 3
STREET MAIN TAPS AND SERVICE CONNECTIONS RECORD
SAN FRANCISCO DISTRICT JUNE 30, 1972

TAPS ON STREET MAINS

	WHARF	3/4"	1"	1½"	2"	3"	4"	6"	8"	10"	12"	16"	TOTAL
JUNE 30, 1971	376	129,357	50,851	5,891	4,274	1,398	1,050	873	552	4	26	2	194,654
ADD 1971-1972	-	- 5,002	5,944	55	156	67	46	30	12	3	1	-	1,312
JUNE 30, 1972	376	124,355	56,795	5,946	4,430	1,465	1,096	903	564	7	27	2	195,966

SERVICE CONNECTIONS

Services Connected to street mains, as above	195,966
Distributors " being one or more additional meter connections to serv. Pipe	2,279
Total connections of Record	198,245
Disconnected Services	38,729
Net metered live services consisting 159,454 Active meters, less 2,589 Extra meters in Batteries, plus 2,651 services Temporarily shut - off	159,516

PREVIOUS RECORDS	1968-69	1969-70	1970-71
Active	159,658	159,622	159,363
Shut - off	2,748	2,712	2,981
Totals	162,406	162,334	162,344
Less: Extra Battery Meters	2,458	2,550	2,632
Net	159,948	159,784	159,712

SERVICE INSTALLATIONS

DISTRICT	FISCAL YEAR	DISTRIBUTORS	TOTALS
Richmond	65	-0-	65
Sunset	49	-0-	49
N. Market & Western Addition	244	-0-	244
S. Market & Twin Peaks	448	-0-	448
Waterfront	-0-	-0-	-0-
Totals	806	-0-	806

PREVIOUS YEARS	TAPS	DISTRIBUTORS	TOTALS
1968-1969	709	-0-	709
1969-1970	558	-0-	558
1970-1971	566	-0-	566

TABLE NO. 4

LENGTH OF VARIOUS SIZES OF TRANSMISSION MAINS IN FEET

	16"	24"	28"	30"	33"	36"	37"	39"	42"	44"	48"	54"	57"
Alameda	395s					122,934							
Pleasanton				27,432									
Niles-Irvington										15,600			
Calaveras										30,570	1,045		
Bay Division #1									3,161s				6,821
Bay Division #2									250r			6,066s	
Bay Division #3													
Alameda Cr. Siphon													
Crystal Sprgs. #1		238				115 8*				84,821		358	
Crystal Sprgs. #2				669					100			16,757	
C. S. Bypass P/L													
Sunset & C.S. #3													
Sunset Pipeline												337	
San Andreas Br. of Sunset Pipeline													
San Andreas #1		31				2,334			3,150	21,103			
San Andreas #2												64,809	
Baden-Merced				32,258		2,260	1,560						
San Andreas Out-Let Conn. Pipes				5,024								869	
Palo Alto						28,049							
Pilarcitos Aqued.			7,480		169	648				730			
Stone Dam Aqued.				501				1,814		2,106	2,894		
C. S. - S. A. Aqued.				103						30			
San Antonio												110	
Sunol Pump				170		7,697							
TOTAL	395	269	7,480	66,157	169	164,045	1,560	1,814	6,661	154,960	3,939	89,306	6,821

(continued)

s - submarine pipes
r - risers
* - Tapers, Valves, Meters and Specials

TABLE NO. 4

LENGTH OF VARIOUS SIZES OF TRANSMISSION MAINS IN FEET (cont'd)

	60"	61"	62"	66"	69"	72"	76"	78"	79"	80"	86"	90"	91"	96"	Total Feet	Miles
Alameda															123,329	23.36
Pleasanton															27,432	5.19
Niles-Irvington															15,600	2.95
Calaveras															31,615	5.99
Bay Division #1	102,131														112,113	21.23
Bay Division #2			26,094	78,856			3,867								115,133	21.81
Bay Division #3						127,103 5,725*		43,184 1,908*				917 271*			179,108	33.92
Bay Division #4						672				147	365	90,469		44,966	136,619	25.88
Alameda Creek Siphon					2,942	93						2,972		2,941	8,948	1.70
C. S. #1	4,948														90,488	17.14
C. S. #2	84,317							716							102,559	19.42
C. S. Bypass P/L	64 11*													4,388 37*	4.500	0.86
Sunset & C. S. #3	17,549	1,493 36*						145	14,491 138*				5,192 119*		39,163	7.41
Sunset Pipeline	45,925 105*	37,885 67*													84,319	15.97
San Andreas Br. of Sunset Pipeline	41	5,907 71*													6,019	1.14
San Andreas #1															26,618	5.04
San Andreas #2															64,809	12.27
Baden-Merced															36,078	6.83
San Andreas Outlet Conn. Pipes	1,739	873				1,276									9,781	1.85
Palo Alto															28,049	5.31
Pilarcitos Aqueduct															9,027	1.71
Stone Dam Aqueduct															7,315	1.39
C.S. - S.A. Aqueduct	23,218			356		820									24,527	4.66
San Antonio	10,940														11,050	2.09
Sunol Pump															7,867	1.49
Sunol Plant To Siphon								8,512							8,512	1.61
TOTAL	290,988	46,332	26,094	79,212	2,942	135,689	3,867	54,465	14,629	147	365	94,629	5,311	52,332	1,310,578	248.22

* Tapers, Valves, Meters and Specials

TABLE NO. 5

PIPE RECORDS
CITY DISTRIBUTION SYSTEM

WROUGHT IRON, DUCTILE IRON AND STEEL PIPE

Size	Total Pipe in Ground June 30, 1971*	Pipe Laid 1971-72	Removed or Abandoned 1971-72	Total Pipe in Ground June 30, 1972*
0-3/4	9,642	0	0	9,642
1	31,045	0	0	31,045
1-¼	3,728	0	330	3,398
1-½	123,513	6	324	123,195
2	114,831	575	3,209	112,197
3	1,778	0	160	1,618
4	3,886	0	0	3,886
5	804	0	804	0
6	1,827	93	12	1,908
8	1,800	29	800	1,029
12	7,001	18	0	7,019
13	678	0	222	456
16	21,962	0	535	21,427
18	2,744	347	0	3,091
20	75,769	0	0	75,769
22	25,749	0	0	25,749
23-½	2,037	0	0	2,037
24	76,850	39	0	76,889
30	49,357	32	33	49,356
33	2,409	0	0	2,409
36	56,596	31	28	56,599
37-½	8,896	0	0	8,896
44	22,501	0	0	22,501
48	12,818	0	0	12,818
60	26,216	0	0	26,216
TOTAL W.I.,D.I. & S.	684,437	1,170	6,457	679,150

TRANSITE PIPE

Size	Total Pipe in Ground June 30, 1971*	Pipe Laid 1971-72	Removed or Abandoned 1971-72	Total Pipe in Ground June 30, 1972*
6"	16,982	0	0	16,982
8"	24,649	0	97	24,552
TOTAL TRANSITE	41,631	0	97	41,534

TABLE NO. 5
(cont'd)

CAST IRON PIPE

Size	Total Pipe in Ground June 30, 1971*	Pipe Laid 1971-72	Removed or Abandoned 1971-72	Total Pipe in Ground June 30, 1972*
2"	23,937	0	100	23,837
3	48,232	0	2,219	46,013
4	499,244	2,858	5,244	496,858
6	2,068,723	16,211	2,248	2,082,686
8	1,745,846	6,537	2,935	1,749,448
10	4,239	0	40	4,199
12	586,958	8,039	2,907	592,090
16	347,889	8,577	925	355,541
20	22,592	0	0	22,592
22	15,453	0	0	15,453
24	60,256	0	40	60,216
30	4,397	0	0	4,397
TOTAL C. I.	5,427,766	42,222	16,658	5,453,330
TOTAL ALL	6,153,834	43,392	23,212	6,174,014
MILES	1,165.499	8.218	4.396	1,169.321

* Cast Iron and Ductile Iron Pipe are considered synonymous.

ORGANIZATION AND PERSONNEL

EXECUTIVE

Arthur H. Frye, Jr.	General Manager and Chief Engineer
H. C. Medbery	Asst. Gen'l Mgr. & Asst. Chief Engineer
C. J. Roche	Assistant General Manager, Administrative

RESOURCES AND PLANNING

R. D. Keeley	Senior Civil Engineer

ENGINEERING DIVISION

J. L. Bardoff	Principal Engineer
P. T. Matsumura	Senior Civil Engineer
D. P. Cooper	Senior Civil Engineer

CITY DISTRIBUTION DIVISION

K. R. Boyd	Manager
J. E. Kenck	Assistant Manager

SHOPS DIVISION

F. L. Baggetta	Superintendent

PENINSULA DIVISION

R. C. Rosen	Manager
R. L. Borame	Assistant Manager

ALAMEDA DIVISION

C. L. Hughes	Manager
G. J. Caccia	Assistant Manager

WATER PURIFICATION DIVISION

H. W. Tracy	Manager

COMMERCIAL DIVISION

T. P. Kearney	Manager
F. Frery	Assistant Manager

AGRICULTURAL & LAND DIVISION

F. G. Loskay	Manager

ACCOUNTING DIVISION

H. Guetersloh, Jr.	Head Accountant

RETIRED

July 1, 1971 through June 30, 1972

During this fiscal year, the following employees were retired from service and recognition is given to their faithful services in the organization:

EMPLOYEE	CLASSIFICATION	YEARS OF SERVICE
Eleanor Cameron	1620 Billing Auditor	5
Peter Cameron	7462 Utility Plumber Helper	24
Joseph Daly	1632 Sr. Account Clerk	11
Margaret Henry	1446 Sr. Clerk Stenographer	18
Isaac Hollomon	7250 Utility Foreman	26
Ruth Logasa	1620 Billing Auditor	28
Thomas Moore	B 222 General Clerk	34
Cecelia Murphy	1478 Sr. Water Services Clerk	28
Fred Rachok	1654 Principal Accountant	19
Walter Raven	1468 Water Services Clerk	4
Ralph Springer	7388 Utility Plumber	37
Elmer Treanor	7388 Utility Plumber	26
William Tweedie	7334 Stationary Engineer	29
Wai Wong	6318 Construction Inspector	9
Frank Yriberri	7250 Utility Foreman	30

IN MEMORIAN

John Ledderhos	7354 Truck Driver, Heavy	13